Mt. Gleason Nike Missile Site
(LA-04-L)(LA-04-C)
Angeles National Forest
South of Soledad Canyon
Sylmar Vicinity
Los Angeles County
California

HAER No. CA-57

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
Western Regional Office
National Park Service
U.S. Department of the Interior
San Francisco, California 94102

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HISTORIC AMERICAN ENGINEERING RECORD

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Location: 15 air miles northeast of Sylmar in the Angeles National Forest. It lies topographically above Soledad Canyon, which is north of the site. The facility is 6 miles from the Angeles Forest Highway summit by way of a narrow two-lane paved road.
Sylmar vicinity, Los Angeles County, California

Radar Site:	Launch Site:	Barracks Site
11.369600.3801960	11.370390.3801260	11.370200.3801900
11.369700.3802130	11.370390.3801780	11.370200.3802070
11.369990.3801960	11.370760.3801260	11.370420.3801900
11.369990.3802130	11.370760.3801780	11.370760.3801780

Date of Construction: 1955 to 1957. Altered 1959 to 1960

Engineer: Various

Builder: U. S. Army Engineer District, Corps of Engineers, Los Angeles

Present Owner: Angeles National Forest, U.S. Forest Service, U.S. Department of Agriculture

Present Use: The California Department of Corrections leases the site for use as a correctional facility, housing 105 men. The Los Angeles County Fire Department has also established the Mt. Gleanson Fire Station at the site. Both uses are operated under lease from the U.S. Forest Service.

Significance: The Mt. Gleason facility is significant for several reasons. It was the first Nike unit planned and constructed in the Angeles National Forest, and it operated for the longest period of time amongst the Angeles National Forest System (1955 to 1974). As the first unit under Nike construction, it set the precedent for future Forest Service action involving all Nike units. The barracks, administrative area, and underground storage units are all in excellent condition. Mt. Gleason is the highest Nike installation in the United States.

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PART I. HISTORICAL BACKGROUND

American military interest in guided missiles dates to 1940, when the Air Force established a "guided missiles" program which utilized glide-bombs launched from aircraft and guided to surface targets. A second generation glide-bomb was the "bat" which also began as an Air Force project but was eventually transferred to the Navy. This missile system was of particular interest, because radar was employed to lock a "bat" onto its target.

In 1943, the Army established its own Rocket Branch known as the Technical Division of the Office, Chief of Ordnance. The goal of this organization was to bring further development of the guided missile under more central management. In May 1944, the Army placed a contract with the Jet Propulsion Laboratory in Pasadena, California, for investigation of the feasibility and future use of guided missiles.

By contrast, Germany had worked on nearly 150 guided missile projects by the end of World War II. Many of these projects were related to antiaircraft surface-to-air missiles, and were a direct result of the increasing impact of Allied bombing on German home territory. The most successful of the German projects were the "Enzian" (Gentain), "Schmetterling" (Butterfly), "Reintochter" (Daughter of the Rhine), and "Wasserfall" (Waterfall). These projects progressed little beyond the testing stage or they might have hindered the Allied war effort.

Despite the fact that surface-to-air guided missiles had never become a serious operational weapon, the implications of their development were clear. Using German technology with British radar, and the United States' nuclear device, a single country could virtually dominate any form of armed conflict. In effect, the race was on to develop all forms of both long- and short-range guided missiles.

In February 1945, the Army contracted with Bell Telephone Laboratories and the Western Electric Company to investigate an air-defense program. This was the beginning of what would become the NIKE program. The Army had established earlier, with some foresight, the White Sands Proving Ground in New Mexico, and it was here that much of the original testing of the NIKE was carried out. NIKE, however, was only one of a number of missiles being tested by the Army. In addition, the Air Force and the Navy were running separate and highly competitive programs.

As early as 1945, for example, Boeing was developing a ground-to-air pilotless aircraft (GAPA) under an Air Force contract. This was actually a highly advanced ramjet powered missile. In 1949, however, a high-level decision was made to force the Air Force to cancel its short-range antiaircraft missile program. In response, one Boeing engineer remarked:

> We were somewhat ahead of this missile in development at the time of cancellation. We had even developed our own ramjet power plants for this particular bird. We were making terrific progress, and had a weapon that could soon have been placed in operation. Then someone screamed that the Army was being crowded by our works and blooey! -- just like that, the whole thing was canceled. (Caidin 1958: 238)

The decision was clearly political. One clue as to why the decision was made is that General Omar Bradley, Chairman of the Joint Chiefs of Staff, had determined that each branch of the armed

services would conduct missile development according to its assigned mission. The Army was assigned the mission of manning antiaircraft (gun) artillery emplacements.

The Army's overall missile program was, however, in a state of disarray. In retrospect, therefore, it is perhaps unfortunate that the Air Force was ordered to cancel its program.

> It was evident that after its excellent start, the Army's postwar missile program was foundering in a morass of financial want and procrastination. The Army had almost abandoned the entire Project Hermes. It had picked up the LaCrosse (tactical) missile program from the Navy, and had some other tactical missile irons in the fire. Its only major projects were the Corporal missile and a new ballistic missile, the proposed Redstone. (Caidin 1958: 238)

Due to these financial woes, which were shared by other branches of the armed services, the country's missile program languished. This continued until July 1950, when the opening shots were fired in Korea. The spectre of war shook the American people, and in particular, politicians, and the military command. As a result, money quickly became of less concern in relation to maintaining a state of military readiness.

> A succinct example of the change of attitude can be seen in the missile budget. From 1945 to 1950, the missile program in this country averaged about $70 million a year, gradually creeping up to $800 million spent on missiles, and the second more than $1 billion. (Parson 1962: 38)

Again, as a result of the Korean War, the Secretary of Defense, George C. Marshall, Army Chief of Staff during World War II, created the position of Director of Guided Missiles as part of his office. A number of missile programs were immediately funded, and they each became operative within a few years. As an article in the *Argus* notes, the general guidelines for the development of the NIKE system were as follows:

- Contracts were let and the NIKE System (NIKE, the Winged Goddess of Victory of Greek mythology) was begun.
- From the outset, the NIKE project had some specific objectives. NIKE would have these characteristics:

  Supersonic speed and rocket power free of dependence on this atmosphere for its supply of oxygen.

  Ground-based guidance equipment which would not be expended each time a missile was fired.

  A warhead of sufficient power to destroy its target without scoring a direct hit.

  Self-sufficient capabilities for covering the range of the air battle, if necessary, from detection through destruction of enemy target.

> An open-end design -- that is, a system capable of accommodating improvement economically with the least obsolescence of existing components. (*Argus*: June 1964, p. 2)

The first of this series developed was the NIKE I, later renamed the NIKE-AJAX. By 1951, the first successful surface-to-air interception of an aircraft by a guided missile was accomplished. In 1953, the first prototype battery was tested at White Sands Proving Ground, and in March of 1954 the first combat operative Nike unit became operative in the Washington area. The NIKE quickly became the most important part of the Army missile program, both in terms of finance and responsibility (see Figure 1).

LOS ANGELES DEFENSE AREA DEPLOYMENT

In Los Angeles, the Department of the Army had directed, as early as December 1951 (letter, AGAO-S 381, December 1951), that future sites be located under the subject heading "AAA Defense Area and Projects Definitions." At this point in time, the investigation was ordered to proceed under strict security. On 6 May 1952, these guidelines were somewhat relaxed. A letter from General Bush, to the Commanding Generals (AGAO-S, 2 May 1952) notes:

> 2. Paragraphs 3a and c are modified to effect a downgrading of the classification of AAA projects to permit competitive bidding on the construction of the projects. Individual projects or groups of projects not exceeding six need not be classified. However, all correspondence and documents containing seven or more projects in any one defense area will be classified RESTRICTED SECURITY INFORMATION.

By July 1952, the "siting team" in the Los Angeles area had gathered considerable information on the location of future NIKE sites. L.B. Otterness, Chief of the Appraisal Branch, U.S. Army Corps of Engineers, Los Angeles District, placed a "memorandum for file" in response to a telephone inquiry from William Shawler, Sixth Army. He noted:

> I informed Mr. Shawler that:
>
> a. The siting team, while in Los Angeles, had tentatively selected between 50 and 60 sites under the defense plan for Los Angeles.
>
> b. Although only 12 sites are being considered for operation at this time, each site requires alternates in the event complications arise at main sites selected, and for that reason the siting team had requested that rights of entry be obtained on the total number selected by the team.
>
> c. Information furnished by the siting team only pin-pointed the locations on a large map, and ownership data and address of owner had to be obtained prior to requesting acquisition to contact owners for necessary rights of entry.
>
> d. Ownership data has been obtained on approximately one-half of the sites. This data is [sic] being shown on smaller plats and will be furnished acquisition as soon as copies are run on individual sites.

> e. I quoted Message No. 63, dated 5 July, received from Commanding General, 47th AAA Brigade, Fort Baker, requesting information on progress made in procuring right of entry for the radar testing on I2 sites in Los Angeles.
>
> f. As soon as rights of entry on 6 sites have been obtained, the AAA Brigade at Fort Baker will be notified. (SPLRH 601: 7 July 1952)

Efforts to acquire sites proceeded with all possible speed. However, the Corps of Engineers did experience some difficulty. This is evidenced in a letter from Col. Shuler, Army Corps of Engineers, Los Angeles District, to Col. Gerald Gibbs, Commanding Officer, 47th AAA Brigade at Fort MacArthur, Shuler writes:

> Enclosed is a newspaper clipping from the Santa Monica "Outlook" dated I2 January 1953 which I desire to bring to your attention. You will appreciate, I am sure, that publicity of this nature adds greatly to the already difficult problem of obtaining real estate in the Los Angeles area for your project. Since none of my officers made the statement, it appears to me that perhaps one of yours may be involved. If so, I would appreciate it if in the future that releases of this type be carefully screened to avoid issuance of any information which tends to unnecessarily alarm the property owners.
>
> Along the same line, it has been reported to me that in connection with the negotiations with the City of South Gate, one of your officers made a remark which the city officials evidently construed to mean that another site would do just as well as the park site. It is felt that this remark had a great deal to do with stiffening the opposition of the council members to leasing part of the park for your purposes. I feel that the Los Angeles District must take an unequivocal position in dealing with property owners, such position to be based on your statement that a certain property is required for defense purposes. Any statements to the contrary which reach the people with whom we are negotiating makes our job the more difficult.

In brief, the Army Corps of Engineers was aware of the difficulty of "selling" the NIKE missile to the public, and wanted no interference from Army Command.

In October 1953, real estate negotiations were temporarily suspended. The reason for this is not clear, but the delay was extremely short lived. A letter dated 12 November 1953 notes:

> 1. Reference is made to Teletype ENGLP 4187, dated 28 October 1953, directing the suspension of all real estate action on the NIKE program. This teletype is hereby rescinded and all real estate action is to be resumed immediately, consistent with the instructions set forth hereinafter. In this regard, informal information has been received from the Office of the Assistant Chief of Staff, G4, to the effect that Real Estate Planning Reports will continue to be processed and Real Estate Directives will continue to be issued based upon Real Estate Planning Reports in their present form without awaiting acreage and money revisions which will result from instructions set forth below. (Vol. I NIKE: 12 November 1953)

Acquisition and construction proceeded both immediately and simultaneously and in 1954 the first Los Angeles Defense Area System Nike Battery became operative in Chatsworth.

The siting teams of the Army Corps of Engineers operated under strictly defined and, at the time, classified guidelines. These guidelines were later reflected in all real estate and planning reports. Specific information requested by these guidelines included the minimum acreage, soils and topography, foundation conditions, utilities, availability of water and electrical supply, access, and communications conditions.

PART II. AIR DEFENSE ORGANIZATION: THE NIKE PERIOD

During the NIKE period, the Unified Action Armed Forces assigned the Army the following air defense function: to organize, train, and equip Army air defense units, including the provision of Army forces as required for the defense of the United States and in accordance with guidelines established by the Joint Chiefs of Staff. The combined command established for the defense of the continental United States, Canada, and Alaska was the North American Air Defense Command (NORAD). The unified command established to perform national air defense missions was the Continental Air Defense Command (CONAD) (see Figures 8 and 9). The command established to carry out the specific Army defense mission was the United States Army Air Defense Command (ARADCOM). ARADCOM was officially formed on 21 March 1957, as a redesignation of the U.S. Army Antiaircraft Command (ARAACOM) which was formed in 1950.

NORTH AMERICAN AIR DEFENSE COMMAND (NORAD)

NORAD was directly responsible to the United States Joint Chiefs of Staff. It was created in September 1957 and had jurisdiction over United States and Canadian Forces involved in aerospace defense. It comprised a number of "component forces" including ARADCOM which operated the NIKE system. Each of the component forces provided combat ready air defense units for operational control by NORAD, but the commanders of each component retained command, administration, training, and logistical control over their respective force. NORAD did, however, prepare operation plans, conduct tactical exercises, and coordinate plans and requirements for new air defense weapons (see Figure 2).

CONTINENTAL AIR DEFENSE (CONAD)

CONAD operated as a unified command under the Joint Chiefs of Staff, and performed all air defense missions of a national nature. CONAD was involved in broad national planning, separate from NORAD, while more detailed planning was accomplished by individual component commands including ARADCOM.

U.S. ARMY AIR DEFENSE COMMAND (ARADCOM)

As described in the *Field Manual for U.S. Army Air Defense Employment*, dated July 1988, ARADCOM duties and responsibilities included the following:

> a. The senior U.S. Army organization in the NORAD structure is ARADCOM which commands, trains, and administers the U.S. Army air defense units of NORAD.

b. ARADCOM units defend major industrial and population centers of the United States as well as selected Strategic Air Command (SAC) bases. NIKE-AJAX and NIKE-HERCULES sites are manned by ARADCOM personnel in CONUS and Greenland. In addition, National Guard units man NIKE-AJAX sites within CONUS.

c. Administrative training supervision over the widespread defenses of ARADCOM is diversified by the establishment of area commands (regions). [The region commanding the Los Angeles Defense Area was the 6th Region.]

d. Army air defense command posts (AADCP) are established for each defense at battalion, group, or brigade level. From the AADCP the Army air defense commander exercises operational control over all Army fire units within his defense. For normal operations, the AADCP is under operational control of the NORAD Sector Direction Center; however, for command, the AADCP is directly subordinate to the ARADCOM region commander. [The brigade with responsibility for the Los Angeles area was the 47th Brigade.]

Most important was the general Army philosophy which provided the individual unit commanders with wide discretionary powers. Specifically:

e. The Army philosophy of control of AD units is to delegate to the lowest practical level the authority to act, while preserving at the highest practical level the ability to coordinate. The result is maximum reaction to an enemy threat in a minimum of time. For an AD engagement, the fire unit commander is supplied information on which to base his decisions, and he is delegated authority to act. Only infrequently should it be necessary for an AD commander to exercise his authority to override the combat decision of AD commanders at subordinate echelons.

These powers clearly underscore the actual military significance of each NIKE site under a single battalion command.

AIR DEFENSE BRIGADE

The 47th Brigade at Fort MacArthur had command of the NIKE Los Angeles Defense Area System through most of its history. The AD brigade consisted of a brigade headquarters and headquarters battery, and all AD groups and battalions that were assigned or attached to it. The mission of the brigade was to provide tactical control and supervision to all AD units within its jurisdictional area. A brigade usually consisted of two or more air defense groups. In the Los Angeles area, these consisted primarily of the regular Army 56th and 65th Artillery, with elements of the 57th Artillery, 3rd Battalion, stationed at White Point, Fort MacArthur. The 57th Artillery group was eventually replaced by an Army National Guard (ARNG) Unit (see Figure 3).

AIR DEFENSE BATTALION

The battalion was the basic administrative unit of NIKE air defense. It generally consisted of a headquarters and headquarters battery with several firing batteries. As an administrative unit in the Los Angeles area, the battalion was directly responsible to the brigade headquarters (Figure 4).

AAA MISSILE FIRING BATTERY

The AAA Missile Firing Battery was the base unit that operated at each NIKE launch site (Figure 11). It consisted of a headquarters section, communications section, a fire control platoon, a launching platoon, a launching platoon headquarters, and a launching section. Their duties are described in the January 1956 manual *Procedures and Drills for the Nike I System.*

a. Headquarters Section. The organization and responsibility of the headquarters section is essentially the same as in AAA gun batteries.

b. Communications Section. This section is responsible for installing and maintaining the noncommercial communication nets, and operating the commercial communication nets within the battery.

c. Fire Control Platoon. The fire control platoon consists of one launching platoon headquarters and three launching sections.

d. Launching Platoon. The launching platoon consists of one launching platoon headquarters and three launching sections.

e. Launching Platoon Headquarters. The launching platoon headquarters is responsible for the operation and training of the three launching sections. It contains technically trained personnel to assemble, test, and perform organizational maintenance on the NIKE I missile and booster and launching section equipment. It is responsible for assembling and testing missiles and boosters, and for the maintenance of the rounds at the launching section.

f. Launching Section. The three launching sections are responsible for the preparation of the missile and booster for firing after they have been delivered to the launching section from the assembly and test area and for routine nontechnical tests, checks, adjustments, and organizational maintenance. (FM 44-80, January 1956)

In summary, the organization of the United States Defense Area System from NORAD to the individual AAA missile firing battery was designed specifically to give general guidance at the brigade level and above, with broad discretionary operating powers at the battalion level. This system served to maintain organizational responsiveness while maximizing the NIKE weapons system capability, utilizing quick response as an effective deterrent to enemy attack.

PART III. THE 6TH REGION AND 47TH ARTILLERY BRIGADE: BACKGROUND HISTORY

6TH REGION

The 6th Region ARADCOM was formed on 1 September 1950, as the Western Army Antiaircraft Command. It was redesignated twice, once in 1955 when it was renamed the 6th Army Antiaircraft Regional Command, and again, in March 1957, when it became the 6th Region ARADCOM.

The original command headquarters were located at Hamilton Air Force Base, California, but were later moved to Fort Baker, California. At the time the region was established, it commanded only gun batteries and was assigned the Army air defense of the entire West coast of the United States.

In 1954, the first NIKE-AJAX sites became operational on the Pacific Coast as part of a nationwide program to replace guns as a means of air defense. In September 1958, the first HERCULES missile base with nuclear capabilities became operational at Chatsworth.

A major change in 6th Region structure took place in July of 1960. At this time the 7th Region ARADCOM was formed; it took over the responsibilities of air defense in the Pacific Northwest. In 1961 and again in 1963, the boundaries of the 6th and 7th regions were changed to conform more closely with NORAD Region boundaries. In 1966, the 7th Region was eliminated and the 6th Region once again took over responsibility for the entire Pacific Coast and western United States.

In 1970, as part of a phased deactivation of the NIKE system, the geographic responsibilities of the 6th Region were expanded to include the entire western half of the United States, including portions of the Gulf of Mexico. These responsibilities remained largely in effect until the closure of ARADCOM in 1974.

In relation to California, the 6th Region operated two major defenses, each under command of a brigade: the 40th Artillery Brigade, San Francisco, and the 47th Brigade, Los Angeles Defense Area. The brigades operated throughout most of the NIKE period in California.

47TH BRIGADE

The 47th Artillery Brigade, headquartered at Fort MacArthur during the majority of the NIKE period, was formed on 19 January 1942, and was activated 3 days later at Camp Davis, North Carolina. It was originally formed as the 47th Artillery Brigade (AA), but on 5 September 1943, it was redesignated as Headquarters and Headquarters Battery, 47th Brigade (see Figure 5).

The brigade saw combat in Europe and, at the close of World War II, was deactivated on 16 December 1945 at Camp Kilmer, New Jersey. The brigade remained inactive until 1 April 1951, when it was returned to active Army duty as the 47th Artillery Brigade at Fort Stewart, Georgia. Duties involved training of the 3rd, 208th, and 227th AAA (Antiaircraft Artillery) groups which had been inducted from the ARNG.

On 10 March 1952, the brigade was assigned to Army Antiaircraft Command and to the Western Army Antiaircraft Command which later became the 6th Region ARADCOM. The brigade was stationed at Fort Baker, California, during this period and was assigned the task of defending both northern and southern California AAA sectors.

On 20 November 1952, the brigade was transferred to Fort MacArthur, Los Angeles, California where it was assigned the mission of air defense of southern California. The brigade would remain at this station for 16 years, during which time it witnessed the end of gun-controlled air defense and the development of the NIKE-AJAX and NIKE-HERCULES missile systems.

The first responsibility of the brigade upon arrival in the Los Angeles area was to take control of the 466th AAA 40-mm gun battalion. This battalion was later converted to 75-mm "Skysweeper"

guns in August 1953. The 551st AAA 90-mm gun battalion was assigned to the brigade on 14 September 1953; on 17 August 1954, it was converted to a NIKE-AJAX site, the first operative (Chatsworth) in the Los Angeles area. This battalion was later redesignated (1 September 1958) as the 4th Missile Battalion, 65th Artillery, and remained in the brigade throughout its period in Los Angeles.

The 933rd AAA Missile Battalion was reactivated and assigned to the brigade on 15 December 1955. On 20 January 1959, it was reorganized as the 1st Missile Battalion 56th Artillery. Both the 65th and 56th Artillery groups were assigned extensive duty at the Angeles Forest NIKE sites.

The 720th AAA Missile Battalion of the California ARNG became the first operative NIKE ARNG unit in September 1958. It was later redesignated the 4th Battalion, 251st Artillery and remained an integral part of the Los Angeles NIKE Defense System until its closure in 1974. One of the best under its command was White Point. By December 1954, the brigade had four operational NIKE-AJAX sites. During the next 2-1/2 years, 12 additional NIKE-AJAX sites became operational.

In September 1958, four sites under brigade control were tumed over to the California ARNG. These sites were manned by the 4th Missile Battalion, 251st Artillery. Interestingly, this battalion was named the top ARNG missile battalion in ARADCOM in 1961. This was a highly successful project pioneered by the 47th Artillery Brigade in California and eventually carried out nationwide.

The late 1950s and early 1960s witnessed the conversion of many NIKE-AJAX sites to NIKE-HERCULES sites. As a result, a Missile Master Control System was brought into operation on 1 March 1961. In 1962, the brigade had 13 operational NIKE sites, including 4 operated by the ARNG.

By 1968, many of the Los Angeles area sites had been deactivated and by 1969 the brigade was moved to Homestead AFB, Florida. This was part of a nationwide demobilization of the NIKE System. Mt. Gleason, the last NIKE site in the Angeles Forest to be deactivated, ceased military operation in 1974.

The 47th Brigade had a number of prominent commanders during the 1950s and 1960s. Among these were Major General Olaf Kyster, Jr., Brigadier General Willis A. Perry, Brigadier General John T. Honeycutt, Brigadier General C.D. Lang, Colonel Raymond P. Murphy, Colonel James G. Lail, and Colonel Basil D. Spalding.

Major General Kyster was one of the earliest and most prominent commanding generals of the 47th Brigade; it was in his memory that the Los Angeles Missile Master Facility was dedicated on 12 May 1961. The Los Angeles unit was the tenth and last of its type to be constructed in the United States.

Brigadier General Willis A. Perry commanded the 47th Brigade in 1958. Significant among his contributions was the development of the first family housing project in the Los Angeles area beginning in May 1958. The nationwide establishment of these projects was important as it allowed for the most effieient use of Army personnel in more remote areas. The site was located at Sand Canyon, approximately 7 miles east of Newhall.

General Perry was succeeded by General Honeycutt who commanded the brigade during the late 1950s and early 1960s. Honeycutt oversaw the development of several important innovations in the Los Angeles Defense Area System, including the conversion of NIKE-AJAX to NIKE-HERCULES sites. The first site to be converted was the Chatsworth site in August 1958. By May 1959, the conversion of the second site, located at Mt. Gleason, was nearing completion. The conversions were significant as the NIKE-HERCULES was "atomic-capable." An article in the *Argus* notes:

> Until the conversion of all existing Nike-Ajax sites to Hercules, the Ajax missile will continue to be used. The Hercules site has the capability of firing either a Hercules or an Ajax missile... The Mount Gleason battery site is manned by members of Battery D, 1st Missile Battalion, 56th Artillery, commanded by Capt. Daniel T. Mahoney. (*Argus*, May 1, 1959, p. 7)

General Honeycutt also was involved in establishing the Missile Master Control System; he dedicated the site to General Kyster immediately prior to his replacement by General Lang in the fall of 1961.

Brigadier General C.D. Lang's presence as commander of the 47th Brigade was transitory, but it is significant in relation to local air defense as he was involved in the first of many major realignment and deactivation programs instituted by the 6th Region U.S. Army Air Defense Command in the Los Angeles area. Specifically, during his command, the 12th Air Defense Artillery group, headquartered in Pasadena, was deactivated.

Functions of the 12th Artillery group were assumed by two missile battalions: the 1st Missile Battalion, 56th Artillery, under the command of Lt. Col. Donald L. Ducey; and the 4th Missile Battalion, 65th Artillery, under the command of Lt. Col. Charles B. Cole (*Argus*, 1 July 1962, p. 8). Interestingly, components of the 56th and 65th Artillery were then stationed at all of the active Angeles Forest NIKE sites.

Colonel Raymond Murphy succeeded General Lang as commander of the 47th Brigade in the fall of 1962. Additional commanding officers of the brigade included Colonel James Lail and Colonel Basil Spalding, who also oversaw the initiation and establishment of NIKE deactivation programs (see Appendix A).

MT. GLEASON MILITARY HISTORY

From 1955 to 1956, Mt. Gleason was manned by Battery B of the 551st AAA Missile Battalion. In 1957, control of the site was transferred to Battery C of the 933rd Missile Battalion and in 1958 the site was operated by Battery D. On 20 January 1959, the battalion was reorganized as the 1st Missile Battalion, 56th Artillery. Battery D, 1st Missile Battalion, 56th Artillery, served at the site from 1958 to 1969. In 1970, the Mt. Gleason facility was transferred to Battery A of the 4th Missile Battalion, 65th Artillery. In 1972, the site was manned by Battery A of the 2nd Missile Battalion, 65th Artillery, which served at the site until its closure in 1974.

LOS PINETOS MILITARY HISTORY

The Los Pinetos NIKE installation was first manned by Battery A of the 551st Missile Battalion. This group was reorganized as the 4th Missile Battalion, 56th Artillery on 1 September 1958. Battery A served at the installation until its closure in 1968.

In summary, the 47th Brigade experienced constant and numerous changes of command at the headquarters level, while maintaining continuity at the battalion level, particularly with the continued presence of the 56th, 65th, and 251st Artilleries. As such, the brigade is highly representative of the U.S. Army Nike command structure nationwide. For example, the Los Pinetos Nike installation was under the operative command of the same battalion and battery throughout its history. In contrast, the Mt. Gleason installation experienced some changes in battery group, but was under the same battalion throughout most of its history (see Appendix B).

PART IV. ARADCOM DEACTIVATION: 1968-1975

A number of NIKE sites were deactivated nationwide prior to 1968 or were formally designated as excess real property. It was not until the fall of 1968, however, that a program targeting the deactivation of sites was initiated on a large scale nationwide. Official notification of this program declared that:

> The action is the latest in a series of economy measures being taken by DOD to cut FY69 expenditures as required by the Revenue and Expenditure Control Act of 1968. (*Argus*, September 1968, p. 3).

This program was implemented for two major reasons. First, the NIKE system had been outdated by other antiballistic missile defense plans. Second, political pressures were beginning to be felt with regard to reducing defense expenditures in conjunction with the planned withdrawal from Vietnam. By 1971, this program had become a part of a major realignment of American defense forces. Thus, in an open message to the troops of his command, Lieutenant General George V. Underwood, Jr., the ARADCOM commanding general, noted the need to "reduce the cost of the defense program." He added:

> Moreover, your selection for inactivation was not based upon your record of accomplishment in comparison with batteries scheduled for retention. The decision was based upon the following factors:
>
> a. The priority of the various defended areas.
>
> b. Retention of the maximum number of defenses.
>
> c. Providing the best possible all-around coverage within a particular defense.
>
> d. Retention of those batteries which contributed most to the tactical effectiveness of the defense.
>
> e. Maintaining sufficient active Army batteries to provide the necessary rotation base for our Air Defense Artillery units overseas and to preserve a source of personnel to man Safeguard ABM units. (*Argus*, March 1, 1971, pp. 4-5)

All West Coast operations were planned for deactivation by 30 June 1975. The Pentagon justified these actions as part of the final realignment of United States air defense. In brief:

> DOD explained that a review by the Secretary of Defense of the mission of continental defense against the strategic nuclear threat recognized the changes in Soviet capability in intercontinental ballistic missiles in relation to that represented by their manned aircraft.
>
> As the United States has relinquished the option for continental defense against strategic missiles, the Department of Defense has placed a lesser priority on maintenance of the existing posture for defense against manned aircraft.
>
> Future efforts will be directed toward operations that will provide long-range warning of a bomber attack and improved air space surveillance and control. These efforts will also stress the importance of ensuring that the U.S. technological base keeps pace with potential airborne threats and that the U.S. continues its lead in antiballistic missile technology. The Department of Defense will also maintain and continue development of our field Army air defense systems and capabilities. (*Argus*, February 1, 1974, p. 2)

The disbanding of the NIKE system was carried out in an orderly manner, designed to reduce the impacts of the closure of individual units on both military and civilian personnel. Civilians were, for example, given all possible assistance in being transferred to other nearby positions. Military personnel were reassigned, and there was no programmed involuntary release from active service as a result of the deactivations. The closure of individual units was planned to take 180 days (Figure 6). It was, as may be expected, an extremely complicated process involving the packaging and shipping of equipment, drug testing, severing communications, disposal of excess equipment, and the final transfer of the site to facilities engineers.

As with all NIKE sites the closure of the installation was primarily the responsibility of the Army Corps of Engineers, following implementation of the previously described closure procedures by the Army. The final closure of the installation generally involved: notification by the Army that the property was in excess of its needs and requirements; physical securing of the site to prevent accident or vandalism; preparation of a Report of Excess Real Property by the Army Corps of Engineers; submittal of the Property Report to the General Services Administration; and investigation of the sale, demolition, interim use, or alternate use of the deeds or restrictions placed on the property at the time of acquisition.

PART V. MT. GLEASON

Mt. Gleason was the first NIKE site built in the Angeles National Forest; as such, it set a precedent for subsequent NIKE site building programs. The base was active throughout most of the NIKE period, 1955-1974. It experienced the full range of NIKE development including conversion from the Ajax to the nuclear-capable Hercules missile. The site retains an excellent degree of integrity.

The Mt. Gleason facility is significant for several major reasons: it was the first NIKE unit planned and constructed in the Angeles National Forest; it operated for the longest period of time

amongst the Angeles National Forest System (1955-74); the barracks, administrative area, and the underground storage units are all in excellent condition (the radar facility, however, has been largely demolished); the pitched roofs of its buildings for snow removal show how geographic location can be reflected in architectural design; and the closure of Mt. Gleason created problems between the Department of the Army and the U.S. Forest Service. Changing attitudes toward environmental issues are reflected in the transfer of special use permits from the Department of the Army to the U.S. Forest Service.

ACQUISITION

Mt. Gleason was the first site selected and acquired in the Angeles National Forest for construction of a NIKE installation (Figures 7 and 8). This site, and all other Angeles Forest sites, was selected largely because the Army had determined it would be necessary to relocate several previously selected installations slated for NIKE battery and launch control construction in more populated areas such as Palos Verdes Hills and Playa del Rey.

A directive issued by the Assistant Secretary of the Army John Slezak on 3 December 1953 to the Chief of Engineers, Department of the Army, Washington, D.C., noted that "it will be necessary to resite some of the installation as a result of further investigations and due to possible changes in siting criteria to provide the best possible defense pattern." These changes most likely came about because the Army experienced some difficulty in acquiring privately-owned land. Moreover, construction of NIKE sites in remote areas was due to anticipated adverse publicity from residents of largely populated areas.

The 14 December 1953 "Disposition Form" issued by Colonel B.R. Wimer, Chief of the Facilities Service Division, and sent to the Chief of Engineers, Los Angeles, explained Slezak's directive. It noted:

> 1. Reference: Memorandum for Deputy Chief of Staff (Operations and Administration), from the Assistant Secretary of the Army (Materiel) dated 3 December 1953.
>
> 2. Request that the Chief of Engineers take immediate action and try to select new, less expensive, but tactically suitable guided missile sites to be used in lieu of sites LA-56 C&L (Palos Verdes Hills) and LA-70 C&L (Playa del Rey). The selection of new sites will be made in coordination with the local Antiaircraft Commander in the Los Angeles area.
>
> 3. Upon completion of the action indicated in paragraph 2, request that the Chief of Engineers coordinate the new proposed sites with the Commanding General, Sixth Army, and the Commanding General, Army Antiaircraft Command, prior to forwarding recommendations to G4. Direct communication between the Chief of Engineers, Division, and/or District Engineers is authorized for this purpose.

As a result, the Los Angeles District sought and selected a number of potential sites in the Angeles Forest. On 23 June 1954, the Chief of Real Estate, J.L. Maritzen, applied for the acquisition of the Mt. Gleason site. The letter, and the Forest Service response, are of particular interest for they set precedents for future sites. Martizen's letter reads:

Gentlemen:

Application is hereby made for and on behalf of the Department of the Army for a permit authorizing the use and control of certain land in the Angeles National Forest.

The indicated site area is peculiarly adapted for use in connection with the military protection of Los Angeles and adjacent territory. It is essential for that purpose. The site area is the minimum requirement for the installation and for security protection.

In order that appropriated funds may be expended to construct the installation, it will be necessary that the.permit be drawn for a term which is not cancellable on the part of the Forest Service.

If compatible with forestry regulation, it is suggested that the permit be issued for a term extending for the length of time a military necessity exists for the use of the site. If such a term cannot be authorized, it is suggested the permit be drawn for a term of 10 years, with an option on the part of the permittee to extend the term for an additional period of 10 years.

The installation will be classified and the exclusive use of the site area will be required for the enforcement of military and security regulations.

Joint use of the ingress and egress road to the site should also be granted. This is required in order that appropriated funds may be expended to improve the road, should such improvement be required.

The permit should contain a provision to the effect that any property installed on the land may be removed by the military authorities, and also that the military authorities have the privilege of cancelling the permit on 90 days notice.

The enclosed Mt. Gleason, California, U.S.G.S. Quadrangle Sheet and Drawing, Los Angeles Defense Area Special AAA, Site LA-04-L, designates the land which is the subject of this request.

Should any question arise conceming the proposed permit, a representative from this office will be pleased to call at your office to discuss the situation.

Martizen's letter set the pattern for all future permit applications from the Forest Service. Specifically, the provisions declaring that exclusive military use of the site is of particular importance. The tone of this letter is informal; later application procedures were more rigorous. The Forest Service's response to the Army Corps of Engineers' application reflects this same informality. In a 20 July 1954 letter Forest Supervisor William V. Mendenhall writes:

> Reference is made to your application of 23 June 1954 (Your File No. SPLRD 601.1 Los Angeles Defense Area - Site LA-04-C&L - Mt. Gleason), and to our telephone conversations with Mr. Edgerton conceming the permit to be issued to the Corps of Engineers covering the proposed

development at Mt. Gleason. As discussed yesterday we shall proceed with preparation of the necessary permit and submit it to your office for review.

In the meantime this letter will serve as permission for you to proceed with the needed improvements as outlined in your application.

The Forest Service, in this instance, had cleared the Army to proceed with improvements prior to the official signing of the permit. Construction was delayed, however, by the issuance of the final permit. The reasons for this are unclear. A 30 September 1954 "Memorandum for the District Engineer" merely noted:

Battery LA-04 (Mt. Gleason):

a. Control, Launcher, and Housing Area	Government-owned, Controlled by Forest Service. Available for construction. This office awaiting issuance of final use permit by Forest Service.

It was probable that the Army and the Army Corps of Engineers anticipated future potential problems with the forthcoming permit. If so, the eventual delay was a lengthy one for it was not until 12 January 1955 that the original special use permit was signed. Some construction relating to roadway access may have occurred prior to this date, but the majority of construction probably took place following the issuance of the permit.

Final construction at the site, however, continued to be delayed. The special use permit for construction of a water line, pump station, storage tanks, and sewer lines was not issued until 3 February 1956. The conditions attached to this permit were considerably more restrictive than the first 20 July 1954 approval. The new conditions included the following provisions:

18. The permittee agrees to take all reasonable precautions to avoid damage to property and resources of the United States, and diligently to undertake suppression action in the event of fire resulting from the exercise of the privileges herein granted.

19. The rights-of-way for the pipeline shall be stabilized to prevent erosion in accordance with specifications as given by the Forest Supervisor.

20. At proposed pump house number 3 and in the two saddles west of the proposed pump house where the pipeline will be adjacent to the road, 1-1/2" fire hydrants will be installed in the pipelines.

21. This permit conveys no rights to the permittee to use of the water involved.

22. In the event of fire, the permittee shall allow the Forest Service or other cooperating firefighting agencies to draw upon any or all existing water lines and reservoirs for water to be used for filling fire trucks or pumping for actual firefighting purposes.

23. The pipeline shall be buried to a depth of at least 2 feet.

24. All water storage tanks, except redwood, shall be painted brown.

25. All pump station buildings shall be painted brown.

26. All brush cut in clearing the right-of-way shall be disposed of by chipping where feasible. Where this is not feasible, brush shall be disposed of as directed by the District Ranger.

27. Timber will not be cut or destroyed without first obtaining permission from the District Ranger.

28. Any blasting shall be done with an electric detonator and under written permit from the Forest Service.

29. In consideration of the privileges granted by this permit, the Army does hereby stipulate and agree to conform and abide by the regulations and conditions contained herein.

Examined documents do not directly address the delay in construction at Mt. Gleason. It may be assumed that the Forest Service was becoming increasingly aware of the magnitude of the Nike building program. By this time, the Forest Service had received and approved applications for sites located at Barley Flats/Mt. Disappointment, Los Pinetos, and Magic Mountain/Lang. It is likely, therefore, that the Forest Service planned to apply restrictions on all new permit applications. A review of access road permits related to each of the Angeles Forest sites substantiates this observation. Extensive provisions directed that:

18. The permittee shall take all reasonable precautions to prevent fires and diligently to undertake suppression action in the event of fire resulting from the exercise of the privileges herein granted.

19. The U.S. Army shall maintain said roads in good, safe, and serviceable condition, at least to their present standard. It may perform all work and activities necessary for such purposes and may also make minor improvement to the existing roads.

20. Erosion Control. To the fullest practicable extent consistent with the service requirements of the roads, their maintenance will be carried on in the manner that will cause the least disfiguration of the landscape and reduce erosive surface to a minimum. Materials shall be balanced, if possible, but if waste becomes necessary such surplus will be deposited in a manner that will not create a displeasing appearance along the road, nor accelerate erosion in any stream channels.

To reduce scarring and erosion to a minimum, 'slide material' or other waste will be disposed of by hauling to predetermined dumping points. These points are to be located in advance by the Army and the Forest Officer in charge. The permittee will mark these dumping points with station numbers for ready reference.

Embankment slopes shall be protected from erosion in accordance with the specifications issued by Region 5, U.S. Forest Service, entitled "General Specification on Erosion Control Methods," which are hereby made a part of this permit.

21. Drainage. Drainage, culverts, headwalls, outfalls, shall be preserved as nearly as possible in the condition as constructed.

Drainage conditions shall prevent pooling of surface water on the road bed and protect the road against loss from bank or shoulder slipping.

22. Roadway clearing. Roadside brush shall be kept cut back at least to the edge of the traveled way.

Removal of trees along said roads must be approved by the District Ranger.

All brush and debris resulting from maintenance of roadway shall be disposed of as directed by the District Ranger.

23. Blasting. When the use of explosives is necessary for maintenance of the road, the permittee shall use the utmost care not to endanger life or property.

Blasting operations shall be conducted under the most careful supervision, and only with specific permission from the Forest Supervisor. The permittee shall adopt precautions in using explosives which will prevent damage to surrounding objects and the scattering of rocks, stumps, or other debris outside of the roadway slopes. Where necessary, and at any point of special danger, the permittee shall use suitable mats or some other approved method to smother the blasts, or ripping may be required instead of blasting.

To prevent future slides and to preserve the stability of cut slopes, every effort shall be made to reduce the use of explosives to a minimum. Blasting operations shall be conducted under the most careful supervision. The Forest Supervisor shall have the authority to require the permittee to discontinue any method of blasting which in his opinion is dangerous to the public or destructive to property or natural features.

All explosives shall be stored in a secure manner, in compliance with local laws and ordinances, and all such storage places shall be marked clearly "DANGEROUS - EXPLOSIVES." Where no local laws or ordinances apply, storage shall he provided satisfactory to the Forest Supervisor, and in general not closer than 1000 feet from the road, or from any building or camping area.

The permittee shall use only electric detonators for blasting during the period from 1 May to 31 October, and during other periods as required by the Forest Supervisor.

When necessary, in the opinion of the Forest Supervisor, the permittee shall employ a watchman whose duty it shall be to patrol after blasts are discharged, for a sufficient period of time to ensure against the escape of fire from such operations.

A close watch shall be kept after each blast to see that no fire starts. The following equipment shall be kept at the scene of all blasting operations: one 5-gallon back-pack pump kept filled with water, two shovels and one axe.

24. Excavation. Where maintenance work or minor changes in the road necessitate excavating, the work shall be carried out according to the following standards:

Cut slopes shall not be steeper than 3/4:1 in soil, 1/2:1 in shale or decomposed rock; and 1/4:1 in solid rock.

The tops of all cuts, except in solid rock shall be rounded off to harmonize more naturally with the slope of cut banks and shall be flattened to make a pleasing transition to natural or embankment slopes.

25. Roadside Scenic Values. No ropes, cables, or guys are to be fastened to or attached to any existing trees for anchorages or in lieu of placing of dead men, unless specifically authorized by the Forest Supervisor. When permitted, the trunk shall first be adequately wrapped with a sufficient thickness of burlap or canvas, over which soft wood cleats shall be tied, before any wire, chain, cable, or rope is attached to the tree.

Any timber, trees, or landscape features accidentally scarred or damaged by the permittee shall be treated as ordered by the Forest Supervisor. He may require that they be removed, neatly trimmed up, or restored as nearly as possible to the original condition. All scars made on trees by maintenance operations, or the removal of limbs, shall be painted as soon as possible with brown paint.

26. The U.S. Army agrees that it, its agents, representatives, contractors, and subcontractors will take all reasonable precautions to avoid damage to timber, young growth, and watershed cover.

27. Public Use. The roads shall at all times be open to public use. They will be maintained and used in such a manner as will ensure the least possible interference with public use. Crossings will be maintained in a usable condition.

28. Abandonment. If and when the roads are no longer required for the use for which they are intended they shall be disposed of as requested by the Forest Supervisor.

29. In consideration of the privileges granted by this permit, the Army does hereby stipulate and agree to conform and abide by the regulations and conditions contained herein.

Additional special use permits and amendments were issued for the Mt. Gleason site including an amendment to the original permit. The permit history is summarized as follows:

Special Use Permit LA-822 dated 1-12-55 as amended 10-8-56.	Original Permit
Special Use Permit LA-822 dated 1-12-55 as amended 10-8-56.	For access road
Special Use Permit LA-928 dated 2-3-56 as amended 3-1-56.	For water line, pump station, storage tanks, and sewer lines.

In addition, a private land lease was entered into on 20 September 1954, regarding water rights. The lease was between the United States of America and Edmund Rich and Joseph and Kathryn Bohme. The lease records that the Army had obtained:

> The exclusive right and privilege to develop water on and remove any and all water from the Last Chance and the Eagle patented mining claims located in unsurveyed Section Thirty-one (Sec. 31), Township Four North (T4N) of Range Twelve West (R12 W), San Bernardino Base and Meridian, Los Angeles County, California; together with the right and privilege to lay pipelines and conduits on and across said and adjacent lands and to install pumping plants storage basins and tanks on said land at points to be determined from time to time.
>
> Excepting, however, that portion of the Eagle Mining Claim conveyed by deed recorded 22 March 1902 in Book 1659 of Deeds, Page 16.
>
> The Lessor reserves the right to use any excess water not used by the Government.

CONSTRUCTION

1955-1957

The Los Angeles County Fire Department has maintained a set of as-built construction plans detailing various modifications to the Mt. Gleason NIKE site. An examination of these plans along with station lists, permits, and the excess property report provides excellent evidence of the construction and occupation history at Mt. Gleason. Construction proceeded rapidly at the site. Some work must have taken place prior to the signing of the original permit, for station lists show that the site was occupied by the Army in June 1955. At this time, construction at the site clearly was not completed. Final installation of sewer lines and water lines had not taken place, and conditions at the base must have, at best, been rather primitive. It is probable that during this early period, water was provided by the private lease of the Last Chance and Eagle mining claims. All construction necessary to open and operate the base was completed prior to the granting of the special use permit (1956) for water and sewer lines. Permits for final completion of access roads were not issued until February 1957. Construction plans were drawn up for the paving of roads in September 1957.

Several major points regarding the early construction history of Mt. Gleason should be emphasized. First, the Army placed a high priority on opening and manning the base as soon as

possible once clearance was obtained from the Forest Service. The base itself was operational prior to the construction of several important amenities. Second, these actions illustrate the construction problems associated with the development of a remote installation. Finally, these policies and procedures indicate the increasing resolve of the Forest Service to carefully guard the resources of the Angeles National Forest.

1959-1960

Following completion of the access roads in 1957, no new major construction took place at Mt. Gleason until the site was converted from an AJAX to a HERCULES installation. Construction plans indicate that this conversion began late in 1959 and continued throughout 1960, placing Mt. Gleason among the first NIKE sites converted to nuclear capability. Installation of the HERCULES missile required tighter security measures. As a result, sentry dogs were generally assigned to HERCULES sites.

> The demand for adequate security measures at Nike Hercules sites without the use of additional manpower or large increase in cost brought about the final approval from the Department of the Army to train sentry dogs and their handlers at an interim training center at Fort Benning, GA. Each team's training period lasts eight weeks. Upon completion of the training the teams are being sent to sites designated by the Commanding General, USARAD-COM. (*Argus*, 1 November 1958, p. 9)

This involved both the construction of kennels and additional security fencing. The first trained dogs arrived in Los Angeles in the winter of 1958 and were subsequently assigned to each HERCULES site. Additional support facilities, including radar and maintenance buildings were also added at this time.

1981-1988

The Department of the Army deactivated Mt. Gleason in 1974. The site went unused until 1981 when the California Department of Corrections (CDC) and the Los Angeles County Fire Department leased the land from the U.S. Forest Service. Since 1981, the site has been used as a correctional facility and houses approximately 105 men. CDC and the Mt. Gleason Fire Station occupy the old NIKE administrative headquarters, the bachelor officers' and enlisted men's barracks, the dining hall, and various maintenance and storage sheds. Much of the usable material from the vacant NIKE facility, particularly from the launch area, has been stripped and sold including copper components and steel fencing.

OPERATION

The following will explain the equipment and operations procedures for the battery control, launch area, and missile itself.

THE MISSILES: NIKE AJAX

The NIKE system was the backbone of American missile antiaircraft defense from 1954 to the late 1960s. It encompassed the initial deployment of the NIKE-AJAX (originally Nike I), followed by the Sam-A-7, and eventually the NIKE-HERCULES (Sam-A-25). The designation of these missiles as "Sam" is an acronym for surface-to-air-missile.

The AJAX was the first in the Army's family of guided missiles. In addition, it was the first operational, supersonic United States missile. It was essentially designed to replace the 90-mm and 120-mm guns that had been operational throughout World War II. It was guided by a radar control system, and although it was outdated soon after its deployment, it can be regarded as the pioneering member of the American surface-to-air missile family.

Specifications and Data

Manufacturers:	PRIME CONTRACTOR, Western Electric AIRFRAME, Douglas POWER PLANT, Aerojet-General (General Tire) BOOSTER, Bell Aircraft GUIDANCE SYSTEM, Bell Telephone Laboratories
Type:	Antiaircraft Rocket
Dimensions:	LENGTH, 21 feet (with booster, 34 feet) DIAMETER, 12 inches WEIGHT, 1000 pounds SPAN, 4 feet 6 inches
Guidance:	COMMAND, Radar Beam Rider
Power Plant:	SUSTAINER, Liquid-propellant rocket BOOSTER, Solid-propellant rocket
Performance:	SPEED, Mach 2 (1476 mph) RANGE, 25 to 30 miles CEILING, 65,000 feet
Armament:	High Explosive

THE MISSILES: NIKE-HERCULES

The HERCULES was the second generation in the Army's guided missile system. This system was first deployed in 1958 and represented a major advance over the AJAX because it was nuclear capable. Unlike AJAX, the HERCULES utilized solid fuel for booster and sustainer. It was also faster and could reach a higher altitude. Eventually, it entirely replaced AJAX.

Specifications and Data

Manufacturers:	PRIME CONTRACTOR, Western Electric AIRFRAME, Douglas POWER PLANT, Thikol Chemical BOOSTER, Goodyear Aircraft GUIDANCE SYSTEM, Bell Telephone Laboratories
Type:	Antiaircraft Rocket

Dimensions:	LENGTH, 27 feet (with booster, 41.5 feet) DIAMETER, 32 inches WEIGHT, 10,000 pounds SPAN, 9 feet 2 inches
Guidance:	COMMAND, Beam Rider; Semi-active Radar Homing
Power Plant:	SUSTAINER, Solid-propellant rocket BOOSTER, Solid-propellant rockets
Performance:	SPEED, 4,000 mph RANGE, 50 to 75 miles CEILING, 80,000 feet
Armament:	Nuclear/High Explosive

BATTERY CONTROL

The NIKE guided missile was specifically designed to extend the capabilities of antiaircraft artillery far beyond that of artillery guns. To do this, the NIKE system employed a command guidance type of control, the first of its type to be widely deployed (see Figure 9). Briefly, the acquisition radar initially detected and engaged the target. The target tracking radar followed the engaged target throughout. An additional radar, the missile tracking radar, guided the missile throughout its entire flight. The two tracking radars fed position information into a computer in the battery control trailer. This information was subsequently analyzed and steering orders were issued to the missile in order to guide it to a point of interception. The battery control area contained a number of major equipment items.

a. Acquisition Radar. This radar is composed of the acquisition antenna, receiver, and transmitter. The operator's controls and displays are located in the battery control trailer. It is used to detect, observe, identify, and designate selected targets.

b. Target-tracking Radar. This radar is composed of the tracking antenna, receiver, and transmitter mounted on a drop-bed antenna trailer. The three operator's controls and displays (azimuth, elevation, and range) are located on the target console in the radar control trailer. The target-tracking radar tracks the designated target and fumishes target present position data to the computer.

c. Missile-tracking Radar. This radar is composed of the missile-tracking antenna, receiver, and transmitter, mounted on a drop-bed antenna trailer. The operator's controls and displays are located on the missile console in the radar control trailer. The missile-tracking radar tracks the missile, supplies the computer with missile present position data, and provides a communication link for transmitting orders from the computer to the missile. The missile-tracking radar is similar in appearance to the target-tracking radar.

d. Battery Control Trailer. The battery control trailer contains the acquisition radar cabinet assembly, the battery control console assembly, the computer assembly, an

early warning plotting board, and an event recorder and switchboard cabinet assembly. The battery control console assembly contains the displays and controls required by the acquisition radar operator, the battery control officer, and the computer operator.

e. Radar Control Trailer. The radar control trailer contains the target console assembly, the missile console assembly, the radar power cabinet assembly, and the radar range and receiver cabinet assembly. The missile and target consoles contain the controls and displays required for the missile-tracking and target-tracking radar operators.

f. Radar Collimation Mast Assembly. This assembly is composed of the radar test set, the radar collimation mast, and the targethead assembly. It is used in collimating, testing, and adjusting the missile-tracking and target-tracking radars.

g. Electrical Generating Equipment. This equipment produces the necessary electrical power to operate the equipment in the fire control area. Commercial power with electrical converters (changers) to change 60-cycle power to 400-cycle power will be utilized where available.

h. Battery Control Area Cable System. This cable system interconnects the various elements in the battery control area.

i. Interarea Cable System. The interarea cable system includes the cables necessary to connect the battery control area with the launching area. When cable installation and easement costs for the interarea cables are excessive, wire and radio voice control will be utilized. The feasibility of developing a radio link to replace the three interarea cables is being studied by the Department of the Army.

j. Maintenance and Spares Trailer. This trailer provides facilities for storing portable test equipment, spare components, and spare parts. Components of the acquisition radar are carried in this trailer during march order. (*Procedures and Drills for the Nike I System, January 1956*)

The above command system was later updated throughout the greater Los Angeles Defense Area. The first of these was the installation of the Interim Battery Data Link (IBDL), which was in operation in Los Angeles by May 1958.

> The IBDL permits electronic coordination of missile batteries, functioning as a target data link between firing batteries of air defense installations. The IBDL indicates to battery commanders, on their individual radar scopes, which targets are engaged by other batteries in the area. Possible targets, picked up by radar, appear on the screen of a scope which looks much like the television set in the average home. (*Argus*, 1 May 1959, p. 7)

This system coordinated individual battery control areas, providing each battery commander with information which assured that all targets within the greater area would be more efficiently engaged than was possible with individual battery unit control.

This system was replaced in 1961 by the Fort MacArthur installation of the Missile Master System. A contemporary description notes:

> It is the first integrated system for tying together all elements of Army air defense from target detection to target destruction. Each system consists primarily of an automatic data communication network, and of automatic data processing and display equipment. This system is designed to achieve the maximum effectiveness in firing of all NIKES and other Army air defense weapons at any given installation.
>
> Among the many advantages of the Missile Master is the ability to exercise control of each firing battery by directing it to commence firing or stop firing according to the needs of the defense. This virtually eliminates the chance that more than one battery might launch missiles at the same target. (*Argus*, 1 August 1958, p. 1)

LAUNCH AREA

The launching area contained the launching control area, launching section equipment, and the launcher loaders. The launching area was generally located at a distance from the battery control, and it was more often connected to it by means of the previously described interarea cable system. In brief, the launcher area provided for the maintenance, storage, testing, and firing of the NIKE missile. Most West Coast launcher areas were equipped with underground magazine storage similar to that found at the Angeles Forest sites. The equipment at each launcher included:

a. Launching Control Trailer. The launching control trailer contains the launching control panel, the launching control switchboard, and the test responder. The launching control panel contains the controls, displays, and communications equipment necessary to supervise and monitor the activities of the launching sections during an engagement and to act as a relay station between the launching sections and the battery control area.

b. Launching Control Cabinet. This cabinet, located in the underground magazine storage type site, or in the launching section revetment in aboveground installations, contains the necessary controls, indicators, and communication facilities to enable a launching section to control the preparation and firing of its rounds. It also coordinates the activities of the launching section witlr the launching control panel operator in the launching control trailer. It consists of a launching section control panel and a launching section power cabinet.

c. Launcher-loader Assemblies. The launcher-loaders provide the equipment necessary to accomplish the physical operations at the launching site for storing, loading, and firing the rounds.

d. Electrical Generating Equipment. Underground sites. Electric power for underground sites is supplied by 150-kW, 60-cycle diesel generators or commercial sources when available. Direct 60-cycle power is used for the elevator. Where 400-cycle power is required, the 60-cycle power is converted to 400-cycle power by means of frequency converters (changers).

e. Launching Area and Cable System. This cable system interconnects the various elements in the launching area. (*Procedures and Drills Nike I Missile*, January 1956, p. 9)

The central feature of the launch area was the underground magazine and its associated launcher loader assembly. Storage racks held the missiles in the underground area using a system of locking pins (Figure 10). The missiles were then rolled to the elevator and onto the elevator launcher.

Each launcher loader included a launcher and five sections of loading racks (Figures 11 and 12). Three sections of racks were on the left side of the launcher and were used for storing missile-booster combinations. The sections on the right side of the launcher were used for storing empty launching and transport rails or rejected rounds. Each facility could accommodate four rounds, one on the launcher erecting arm and one at each of the stations flanking the launcher. Options were provided for the installation of additional racks. The entire unit was equipped with electric and hydraulic systems for testing and erecting the round prior to firing. The actual firing process was strictly regulated, and a multitude of safety measures were incorporated into the process (see Figure 13).

SITE DESCRIPTION

Mt. Gleason is one of five NIKE installations located within the boundaries of the Angeles National Forest. The other sites are Barley Flats (LA-09), Los Pinetos (LA-94), Magic Mountain (LA-98-C), and Lang (98-L) (see Figure 7). These sites were built in a variety of configurations, designed in differing utilitarian architectural styles, and vary widely in condition and integrity. The sites overall were constructed during the period extending from 1954-1957. Deactivation of the sites began in 1961 and continued through 1974.

The typical NIKE missile battery site was divided into two major areas: battery control and launching facilities. These were most often located on two separate parcels of land. A third parcel, providing housing, was generally found only at remote area NIKE sites. The battery control area contained the fire control platoon equipment including the central radar and communications facility. The launching area contained all launching platoon equipment and a missile assembly and service area. These facilities tested, fueled, and stored the missiles.

Mt. Gleason was the first NIKE site planned, built, and put into operation in the Angeles National Forest. It was built in a very short period of time, due to its priority status. The site was in operation as a NIKE base before the installation of water and sewer lines. For these reasons, Mt. Gleason strongly reflects the broader needs and goals of the American military establishment in relation to air defense during the mid-1950s. The rushed construction of Mt. Gleason symbolizes the nationwide American effort to counteract the potential "Red Scare" of enemy intervention.

MT. GLEASON

Mt. Gleason is located approximately 18 miles from Palmdale, California. Access to the Mt. Gleason facility is gained along a narrow two-lane road 6 miles from the Angeles Forest Highway summit. The site itself is composed of three primary areas: the radar (control) site, the launch site, and the administrative and living quarters. Like all Nike installations, the radar control facility was

located in an area removed from the launch area. At Mt. Gleason, the radar site is approximately 1.5 miles west of the launch site. In addition, because of its remote location in the Angeles National Forest, administrative facilities, living quarters, and various other support structures were constructed at the Mt. Gleason site (see Figure 14).

Forest Fire History

Four major fires impacted the Angeles Forest Nike sites between 1959 and 1970. Research indicates that forest fires in remote area NIKE sites were a problem nationwide.

In the summer and fall of 1960, a fire started in the vicinity of the Mt. Gleason NIKE site. A thunderstorm ignited four fires near the site, but they were extinguished by NIKE personnel (Battery D, 1st Missile Battalion, 56th Artillery) and the U.S. Forest Service.

Another blaze occurred in 1970. The Mt. Gleason site was threatened at the radar facility. The sentinel dogs and all personnel were evacuated to fallout shelters before the blaze was contained (*Argus*, 1 December 1970). The extent of the damage to physical facilities at the site is unknown in both of the above instances.

The accounts of forest fires in the Angeles National Forest are taken directly from articles published in the Army newspaper, *Argus*. It is important to note that official Forest Service files show the fires were smaller than the reports mentioned in the *Argus* and were not especially threatening to the bases. The Forest Service records regarding these fires are both detailed and accurately recorded. It must be assumed that the inaccurate *Argus* accounts are partially due to a certain degree of over-zealous reporting.

ADMINISTRATIVE AREA

The administrative area comprised the following structures according to a 1976 inventory of standing structures (see Appendix C).

Multipurpose Building (Listed as Co. Hdq. Bldg. on inventory)
Bachelor Officer's Quarters and
Enlisted Men's Quarters
Mess Hall
Liquid Petroleum Tank
Enlisted Men's Barracks - Added in 1961
Gasoline Station (1) Pump
Paint and Oil Storage Shed
Sentry Box
Hyperchlorinator - Destroyed in 1966 (see Note No. 1)
Tank, Water Storage
Pump House No. 1 - (see Note No. 1)
Pump House No. 3 - (see Note No. 1)

Note 1. The 1976 inventory indicates that this structure was destroyed by a storm in 1966.
Note 2. Pump house number 3 appears to be mislabeled on the 1976 inventory. This pump house exists offsite; pump house number 1 remains in the administrative area.

All of the above structures were built during the initial building phase at Mt. Gleason that began in 1954-55, except the enlisted men's barracks which were added in 1961. The architecture of the administrative area is strictly utilitarian, including both concrete block and wood frame construction. Many of the administrative and other structures are noted for their hip-on-gable roof construction. The gable pitch of these roofs is at approximately 35 degrees. These roofs are distinctive only in comparison to the more typical flat roof construction that is common at other NIKE sites. They are designed specifically to aid snow removal due to inclement weather conditions at Mt. Gleason.

Construction drawings show that the roads at the Mt. Gleason NIKE site were paved in September 1957. Originally, roadways were to remain gravel. However, dust from the roadways created a significant problem for the sensitive equipment installed at NIKE bases, particularly in the battery control area. Thus, Mt. Gleason's roads were paved with asphalt in 1957; this was typical of other NIKE sites in the Angeles National Forest.

Barracks, 1955

The original barracks were constructed at Mt. Gleason in 1955. Mt. Gleason had less building space available than most of the other Angeles National Forest sites due to early construction in 1954-55. By 1961, the site suffered from extremely crowded living conditions. The men were housed together in the same quarters no matter what their ranking might be. This was somewhat unusual, as most sites provided separate quarters for noncommissioned officers. As a result, Mt. Gleason was known for its "serious" morale problem (see Photograph CA-57-68).

The strength of the Mt. Gleason battery increased during the conversion from AJAX to HERCULES (1959-60). This created more stress upon men who already lived in cramped conditions. Moreover, due to Mt. Gleason's isolation, a high percentage of unmarried men were stationed there. In March 1961, approximately 90 men lived permanently on the site; 33 other men worked at the site but lived elsewhere. While some of these men had permission to reside offsite, they were required to maintain lockers and bunks in the barracks at all times (*Argus*, 1 January 1961).

Military hierarchy is reflected in the design of the original barracks. The noncommissioned officers were allotted much larger living quarters than the enlisted men. Moreover, their living quarters were distinctly separate from the enlisted men's dormitory-style living spaces (see Photograph CA-57-69).

A large boiler room divided the noncommissioned officer's living quarters from the enlisted men's barracks. Technical manuals in the possession of the Los Angeles County Fire Department indicate that the boilers are of World War II vintage.

Alterations/Additions: Barracks, 1961

A second barracks was constructed at Mt. Gleason sometime between March and December 1961. Justification for an additional barracks was authorized in the spring of 1961. The original barracks provided approximately 6,345 sq. ft. for living space or approximately 70 sq. ft. per person. This was way below the 125 sq. ft. per man allotment authorized by congressional legislation.

The new barracks provided additional living space for each man, privacy for the non-commissioned officers, and larger dayroom facilities. A 1 January 1961 article in the *Argus* described the projected plans for the new "modern" living quarters at Mt. Gleason. The proposed plans included television, photography and craft shops, and postal delivery. A December 1961 site inspection showed that the new barracks were nearly completed. (Memo To: Division Engineer, San Francisco, From: F.C. Kendall, Engineering Division, Los Angeles, 24 March 1961; Site Inspection Report, Army Corps of Engineers, Los Angeles, December 1961 (see Photograph CA-57-70).

Elaborate stone work exists on exterior walls and patios in this area. This work reflects recent 1980s additions crafted by members of the correctional camp. Similar work can be identified in the vicinity of the current California Department of Correction's administrative headquarters.

Extant Structures and Current Use

Enlisted Men's Barracks (Multipurpose Building, 1988); Multipurpose Building (Company Headquarters Building, 1976; California Department of Corrections Headquarters, 1988); Bachelor Officer's Quarters and Enlisted Men's Barracks (Inmate Barracks and Los Angeles County Fire Station Headquarters, 1988); Mess Hall (Mess Hall, 1988); Paint and Oil Storage Shed (Paint Shed, 1988); Sentry Box; Water Tank (Water Tank, 1988); Pump House No. 1 (Vacant); Pump House No. 3.

Administrative Support Structures

An athletic court and helipad listed below on the 1976 inventory stand outside of the fenced-in launch area.

LAUNCH AREA

The launch area is comprised of the following structures according to a 1976 inventory of standing structures.

Ready Room
Water Reservoir
Pump House No. 2
Missile Assembly and Test Building
Electric Power Plant
Underground Magazine Storage Site, South (Code Name Alfa)
Underground Magazine Storage Site, Middle (Code Name Bravo)
Underground Magazine Storage Site, North (Code Name Catfish)
Athletic Court
Sentry Box
Sentry Control Station
Warheading Building
Metering Station
Fallout Shelter - Added in 1961
Kennels - Added in 1959-60
Dog Equipment Storage Shed - Added in 1959-60
Canine Equipment Storage - Added in 1959-60

The launch area contained all launching platoon equipment. Within the launch area there was also an assembly and service area which contained facilities for the testing, fueling, and storage of missiles. The area was, and to an extent still is, delimited by steel fencing topped by looped razor wire.

Most of the above structures were built during the original NIKE building phase in 1954-55. The dog equipment storage shed, kennels, and canine equipment storage were added during the conversion from AJAX to HERCULES in 1959-60. The fallout shelter was added in 1961 (see Figure 15).

Underground Storage Magazine Site

The underground storage magazine sites (see Figure 16) are the only generally consistent feature of NIKE sites. The Mt. Gleason launch site consists of three missile storage facilities with associated launch pads, access areas, and ground electrical units. Each pad has a double elevator door opening with a variety of launch units extending to each side, left and right, of the elevator. Each unit also has several ventilator shafts and a single double door main entry. Each of the major entries is covered by heavy metal doors which have counter-weights for ease of opening and closure. The underground magazines are made of reinforced concrete. The elevators are raised by means of a hydraulic jack. An official military manual describes the facilities as follows:

> At permanent CONUS installations, each Nike section will be normally emplaced in an underground storage magazine site. Each section's site contains an underground room for storing the rounds (magazine room), an elevator to carry the rounds to the surface for firing, and four launcher-loader assemblies. Three of the launchers are permanently emplaced above ground. These are referred to as satellite launchers. The fourth launcher is mounted on the elevator. When the elevator is down, a missile and booster can be pushed from the storage racks in the magazine room onto the launcher on the elevator. When the elevator is raised, the missile and booster on the elevator can be pushed from the elevator launcher onto the satellite launchers. The elevator may be raised, lowered, or stopped from the master control station in the magazine room, from the controls on the elevator, or from the launching section control panel in the personnel room. Doors are provided to close the elevator shaft opening when the elevator is down. Hydraulic power to operate the elevator and the doors is supplied by the elevator assembly power unit in the magazine room. Fresh air for personnel is provided by the air vent unit in the magazine room. (*Procedures and Drills for the Nike I System*, January 1956, p. 91) (see Figures 17 and 18).

Men lived in the small underground personnel room on a 24-hour basis during "alert" stages. This shelter adjoined the underground magazine room. A heavy metal door sealed off the personnel room from the rest of the silo; a strong concrete wall separated the shelter from the magazine room. The shelters were equipped with bunks and other necessary essentials for 24-hour duty. An emergency personnel escape hatch provided direct access from the personnel area to the outside.

Underground Storage Magazine Site/Art Work

Mt. Gleason's three underground missile storage silos were code named Alpha, Bravo, and Catfish. All three of them have distinct expressive art designs which were painted by enlisted men at the site. As one descends into each underground silo, the entrance doors to the storage magazine have an identical leopard-like animal on their surfaces. These paintings appear to have been stenciled onto the door, as each drawing is the same and no stylistic variations exist. As one descends into silo Bravo, a bright red and green shield is painted on opposite walls about half-way down the stairway. These shields represent a stylized version of a military emblem that appears on

the rear stabilizing fins of each NIKE missile. (*Army Info Digest*, March 1956, V. II, No. 3, photo of missile, p. 3.) The design reflects an original military emblem in its depiction of a white NIKE missile placed in the center of the shield.

As one descends into silo Catfish, an elaborate series of paintings flank each stairway wall. The paintings portray many individual soldiers who presumably worked at the site. Some paintings depict soldiers in full uniform down to their nametag. Many are humorous cartoon-like figures. Exaggerated features or short phrases such as "I drink milk" reflect personality traits or poke fun at various sides of military life. Some of the drawings are incomplete showing only the soldier's black boots. One can speculate that the artist was painting these pictures in the early 1970s and did not finish due to deactivation of the Mt. Gleason site in 1974.

Members of Battery A (Alpha), 2d Msl. Bn., 65th ADA left their mark above ground at the launch site. Alpha launcher section crewmen painted a large ALFA sign in big black letters to draw attention to their record during annual service practices. The soldiers recorded their drill scores next to the big ALFA sign: 96.2% in April 1973 and 95.5% in October 1973. Alpha crewmen painted pictures of tombstones for Sections B and C on the exterior underground storage pit door as a reminder of Alpha's record. Written on each tombstone is R.I.P. for "rest in peace." These drawings presumably were done in late 1973 after the drills took place and before April 1974 when dismantling of the site began. The large "Alfa" marker is extant today; the tombstones, however, have been painted over. (*Argus*, April 1974, p. 20-31)

Missile Assembly Area

The missile assembly and testing area lies just outside the fence and east of the launch site. The missile assembly building still contains an interior hoist presumably used to lift missiles. A large berm, 12-15 feet high, separates the missile assembly building from the electric power plant/generator building. An 8000-gallon underground diesel storage tank lies to the north of the generator building. Presumably, the large berm would protect the missile assembly area in case of explosion from the diesel fuel. The electric power plant/generator building is still operable and currently provides backup power for the California Department of Corrections. The three large diesel generators manufactured by General Electric appear to be World War II vintage. A 1946-47 technical manual found in the current fire station administrative office explains the operation of these generators.

Alterations/Additions: Sentry Dog Facilities

The kennels, canine equipment storage, and dog equipment storage shed were added in 1959-60 when Mt. Gleason converted to HERCULES. No more men were added to the base at this time despite the fact that Mt. Gleason increased in military strength once it became nuclear-capable with HERCULES. Instead, sentry dogs were added to all NIKE-HERCULES sites. At Mt. Gleason, a double fence was added to the area surrounding the launch pads to provide a dog runway.

Alterations/Additions: Fallout Shelter

A 60-person fallout shelter was added in 1961. The Acting Chief, Western Section, Construction Division, authorized the construction of this shelter on 14 March 1961. The shelter measures approximately 48' x 27'. Interior features extant from the NIKE period include a decontamination shower and clothing drop. At the southeast exterior corner of the fallout shelter there is a small

sealed room measuring approximately 4' x 4'. An air intake/purification system filtered cleansed air into this small chamber where air quality was measured before it was vented into the shelter. The manometer, used to measure air quality, still exists on the inside wall of the fallout shelter, just opposite the sealed air purification chamber. (Authorization Form, 14 March 1961, To: Division Engineer, U.S. Army Engineer Division San Francisco, From: Acting Chief, Western Section, Construction Division, Military Construction.) See Figure 19.

Alterations/Additions: Acid Fueling Station and Shed

The 1976 transfer and acceptance of military real property shows that an acid fueling station and storage shed were once part of the Mt. Gleason NIKE site. These structures were crossed off the inventory with a black line indicating that they no longer stood in 1976; however, construction plans do exist for these structures. It is possible that these buildings were dismantled in 1974 along with most of the battery control area by the Department of the Army.

Extant Structures and Current Use

Missile Assembly and Test Building (Vehicle Maintenance Building, 1988); Electric Power Plant (Generator Building, 1988); Shop, perhaps the original Warheading Building or Ready Room (Fire Station Equipment Storage, 1988); Underground Storage Magazine Site (3), (Vacant, 1988); Athletic Court; Fallout Shelter (Food Storage Building, 1988); Dog Equipment Storage (Storage Shed, 1988); Cement Block "Cabin", original use unknown (Visitor Housing, 1988).

RADAR CONTROL AREA

The Radar Control Area comprised the following structures according to a 1976 inventory (see Appendix C):

Water Storage Tank
Pump House No. 4
Water Reservoir
TTR Tower, 10 feet
Communication Conduit
Electrical Distribution System
Transformers, 263 kV
Sanitary Sewer
Water Line
Roads
Septic Tank and Drain Field
Parking
Concrete Walks
Paving
Concrete Equipment Pads
Storm Sewer Drainage Ditch
Retaining Wall (3)
Drain Pipe
Security Fence
Guard Rails
Entrance Gates
Intrusion Alarm System

The Radar Control area is 1.5 miles directly west of the launch and administrative areas although it is a 3-mile drive by road from the administrative area. The battery control area contained the central radar and communications facilities. The TTR (target-tracking radar) platform, two water tanks, a concrete pumphouse, and three concrete pads are the only remnants of the original radar facilities located here. The Department of the Army removed most of the radar equipment and facilities here upon deactivation in 1974 (*Argus*, April 1974).

Photograph CA-57-71 shows the construction plans for the radar control area at Mt. Gleason. These plans indicate that the radar control area was divided into three distinct sections: water tanks

and pump house; control towers and support facilities; and barracks and living quarters. Notice that the plans show water being pumped from this area to pump house number 3 which is located half-way between the radar control area and administrative area. Pump House number 3 then carries the water to pump house number 1 which in turn provides water to the general administrative area.

Alterations/Additions: Commercial Power

Because the onsite electrical generating system frequently needed repair, on 15 January 1961, the Los Angeles District Engineer was authorized to let out a contract with Southern California Edison in order to provide commercial power to the site. Commercial power serviced both the launch area and the radar facility. Due to weather conditions and terrain, service underground cables were installed at both areas. Moreover, Southern California Edison absorbed most of the installation costs with the understanding that the government would utilize their service for a minimum of 6 years (3 May 1960, Memo To: Command General Ft. MacArthur, From: Thompson, Chief, Engineering Division, Los Angeles).

Alterations/Additions: HIPAR Tower

A 50-foot HIPAR tower was added to the Mt. Gleason radar site in 1961. Final design for the tower was approved on 22 June 1960. Due to equipment damage and contractory delays, the tower was not completed until after April 1961. This tower was unusual in design because of its great height; most towers of this nature were approximately 25 feet high. (1 May 1961, Chronology of Scheduled BODs for Nike Improvement with HIPAR, Los Angeles Defense Area Sites LA-78 and LA-04.)

Along with the addition of the HIPAR tower came a generator building with three 150 kW diesel generators. Presumably the tower and generator buildings were constructed due to conversion to Hercules (Memo, 9 May 1961, To: Chief of Engineers, Washington, D.C., From: Knutson, Division Chief, San Francisco, Construction Division). Notice that the 1976 inventory does not list these structures. They already had been dismantled by the Department of the Army previous to the 1976 transfer of property.

Extant Structures and Current Use

Water Storage Tank (Water Storage Tank, 1988); Water Reservoir (Water Reservoir, 1988); TTR Tower Platform (Vacant, 1988); Pump House No. 4 (Forest Service Shed, 1988); Three Concrete Pads, 1988 (Original use unknown).

DEACTIVATION

Mt. Gleason was the last site to be activated within the Angeles Forest. Deactivation of the Mt. Gleason site by the Army was completed on 1 July 1974. At this time the Forest Service was granted an immediate right-of-entry to protect the property from vandalism until the special use permits were terminated by mutual agreement. The site's closure was the subject of extensive negotiation between the Forest Service and the Los Angeles District Corps of Engineers following the public announcement of the closure in February 1974. John Houston, Chief Real Estate Division, Los Angeles District, summarized the threefold problem:

Regional Forest Service officials (Angeles National Forest) initially demanded completed site restoration as provided for in the permits cited in paragraph 1, above. The Forest Supervisor claimed this posture was dictated by the costly experience gained over several years in restoring forest lands relinquished at the time LADA NIKE sites 09, 94, and 98 were closed.

Responsibility for compliance with the National Environmental Policy Act of 1969 has been accepted by the District Ranger and no statement has been prepared by this District to assess environmental impacts attributable to our proposed disposal plan. However, it is to be noted that potential beneficial impacts that may accrue to the said disposal plan will include enhanced aesthetics over the present conditions, the ability of the area to provide more recreational facilities, and the ever present factors of health and safety for the very young people who may make use of these resources. Commitment of the Firing Control land area to any use other than that of the existing Forest Service development plan will require commitment of the resources which may exist within that land to possible detrimental uses. If properly mitigated, the adverse effects will be reduced, if not eliminated; and to some extent the contextual relationships of the Firing Control Area to the Administrative-Launcher Areas would be greatly enhanced.

The cited permits provide that the Army shall remove the improvements from the forest lands, provided that funds for such purpose are available. Preliminary estimates and our past experience indicate that removal costs shall be in excess of $150,000 over the salvage values (COE: Houston, August 16, 1974).

The Forest Service believed that their experience with the closure of Barley Flats/Mt. Disappointment, Magic Mountain, and Los Pinetos had been a financial burden to them. Moreover, the passage of the National Environmental Policy Act seriously complicated the closure of the site from the Army's standpoint as it gave the Forest Service considerable legal leverage. Also, the Army and the Army Corps were in the position of not having adequate funds for the removal of all improvements; negotiations proceeded slowly. Six months later, a 7 February 1975 letter to the Forest Service by W.E. Franklin, Acting Chief, Real Estate Division of the Los Angeles District redefined the Army Corps' position:

Pursuant to authorities contained in the Federal Property and Administrative Service Act of 1949, 63 Stat. 377, as amended, specifically paragraph (c) of Section 203, the delegation of authority to the Secretary of Defense from the Administrator of General Services, 41 SFR-101-47.601, and the redelegation of such authority from the Secretary of Defense to the Military Departments, the improvements, but not necessarily limited to only those improvements as shown on the attached "Exhibit A," Transfer and Acceptance of Military Real Property, DD Form 1354, are hereby transferred to the Department of Agriculture, Forest Service, without reimbursement, effective as of 8 August 1974.

The land lease cited in paragraph d. above, as listed on "Exhibit A," is included in the properties being transferred. The Forest Service assumes responsibility for all obligations and commitments accruing to the Government by reason of that said land lease.

> It is requested that the transfer be acknowledged on three copies of this letter of transfer and on three copies of "Exhibit A," and that all these copies be returned to the District Engineer for our continuance of action. The original and one copy may be retained for your record purposes.
>
> It is expressly agreed that the Forest Service waives all demands for the removal of the improvements and restoration of the said permitted lands to a condition as good as that which existed at the time the Army took possession.

The Army took the position that it would replicate the same procedures undertaken at the closure of the other Angeles National Forest Nike installations. In a March 1975 response, Acting Forest Supervisor J.D. MacWilliams disagreed with several points raised by W.E. Franklin. MacWilliams answered:

> 1) Your occupancy and use of National Forest lands, as authorized by various special use permits, does not transfer title of these lands to your Department. Therefore, it is inappropriate to consider them excess lands. These lands will continue to remain under the management of the Department of Agriculture.
>
> 2) Relinquishment of the improvements and your special use permit as of August 8, 1974 are not acceptable.
>
> We believe your department should complete the demolition of certain structures at the Firing Control Area before we can terminate your permit. Your efforts to secure necessary funding for this are encouraging and hope you can proceed as soon as possible with demolition.
>
> 3) We will accept relinquishment of your improvements when the above conditions have been complied with.
>
> 4) After reexamining the land lease No. DACA09-5-73-134 Edmund Rich, et al., we do not wish to accept the conditions of this lease under any circumstances. We have good reason to believe that any future use of the Mt. Gleason area can be accommodated without this lease. In addition, there is serious question about the physical location of your improvements. Some of the developed water resources appear to be on National Forest lands but included in your lease. The financial obligation and commitments of this lease appear excessive in terms of the benefits from the lease. Therefore, you should proceed to deal directly with your lessee in terminating your lease. Any action involving possible disturbance of National Forest Lands would need prior approval of the Tujunga District Ranger (COE: MacWilliams, March 1975).

Ultimately, the Army complied with the majority of the Forest Service's requests. Contractors were hired to complete restoration work. On 29 June 1976, Forest Supervisor William T. Dresser notified the Army Corps that it would terminate the permits following completion of satisfactory work. The special use permits were subsequently terminated on 31 August 1976.

The acquisition and construction history of the Mt. Gleason NIKE site illustrates the dynamics between the U.S. Army and the U.S. Forest Service. The Forest Service originally granted the

Army access to the site previous to the actual issuance of a special use permit. This was probably both a function of a genuine national awareness of the need for air defense and Forest Service inexperience in negotiations over a large-scale military project.

Furthermore, Mt. Gleason was constructed early in the NIKE program. Few models existed to serve as precedents for delicate negotiations over land use and national defense priorities. During the 20-year military occupation of Mt. Gleason, an environmental awareness, expressed in federal legislation, evolved. These issues had not been strongly defined in the mid-1950s. Such changing interests are powerfully expressed in the history of the Mt. Gleason site, particularly because it served as the longest operating NIKE site in the Angeles National Forest.

In sum, Mt. Gleason was the first base constructed in the Angeles Forest NIKE System. It was also the last base to be deactivated within the Angeles Forest. Its deactivation reflected a nationwide change in attitude toward the environment. Military prerogatives fostered by Cold War fears dictated hasty construction of the site in the mid-1950s, and the U.S. Forest Service placed few obstacles in the Army's path. With the passage of the National Environmental Policy Act in 1969, though, national policy mandated greater concern for environmental disturbances. The Forest Service, backed by federal legislation now, pressured the Army to dispose of the military installation in a manner consistent with the Forest Service's environmental management standards.

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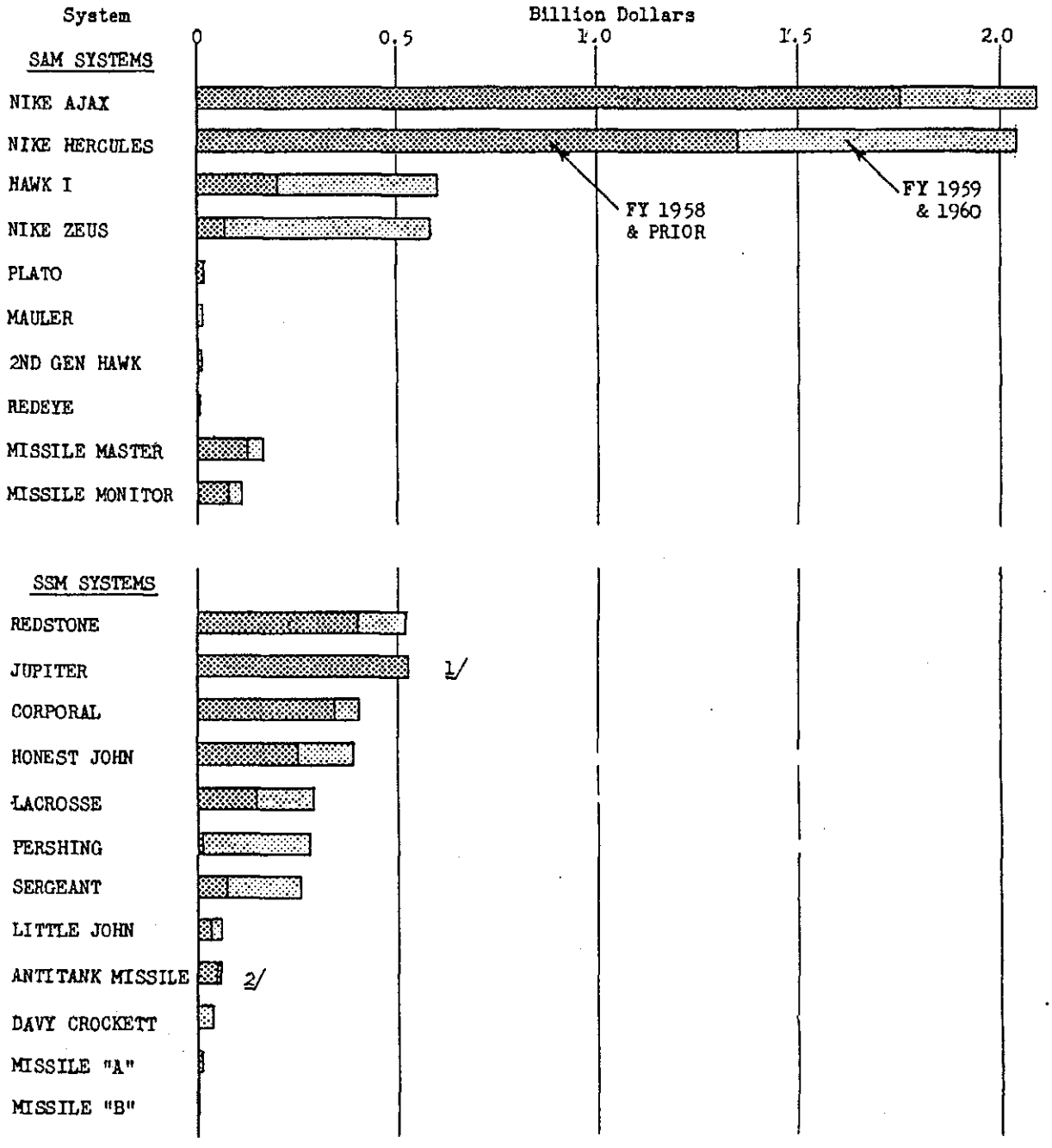
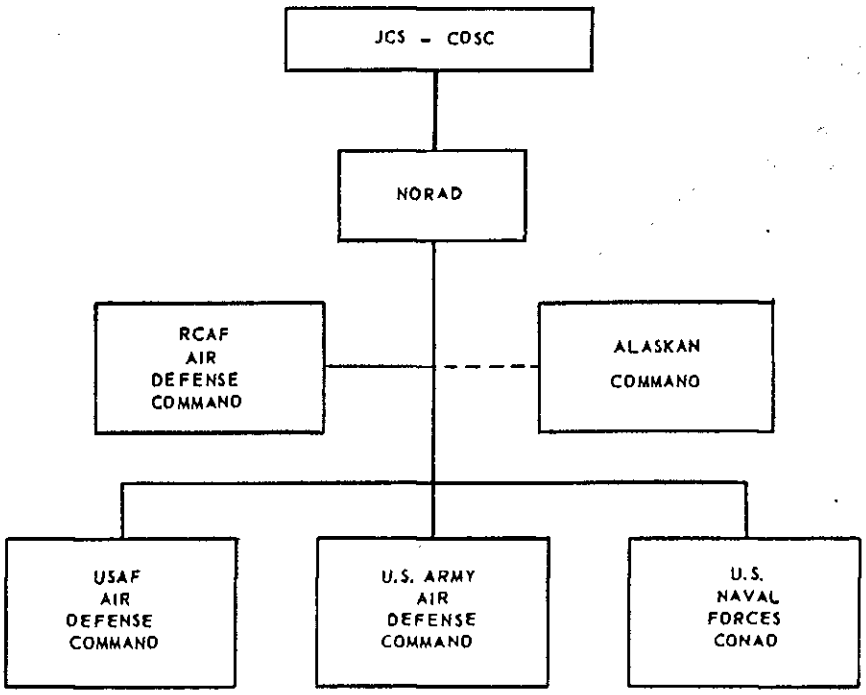
ESTIMATED DIRECT OBLIGATIONS FOR U.S. ARMY MISSILE SYSTEMS



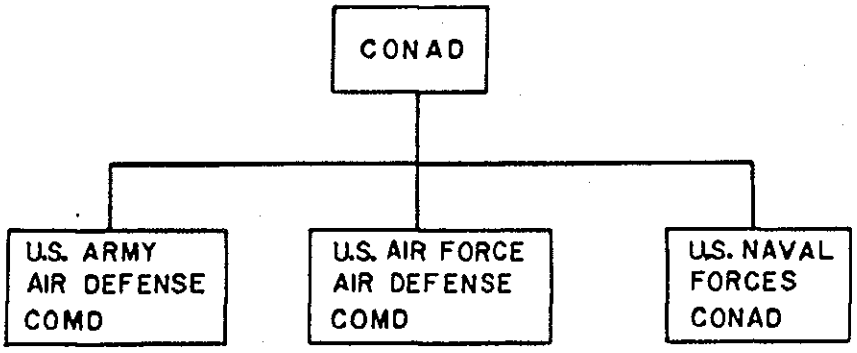
1/ Funding beyond FY 1958 by USAF.
2/ FY 1960 data not available.

Program Costs

FIGURE 1



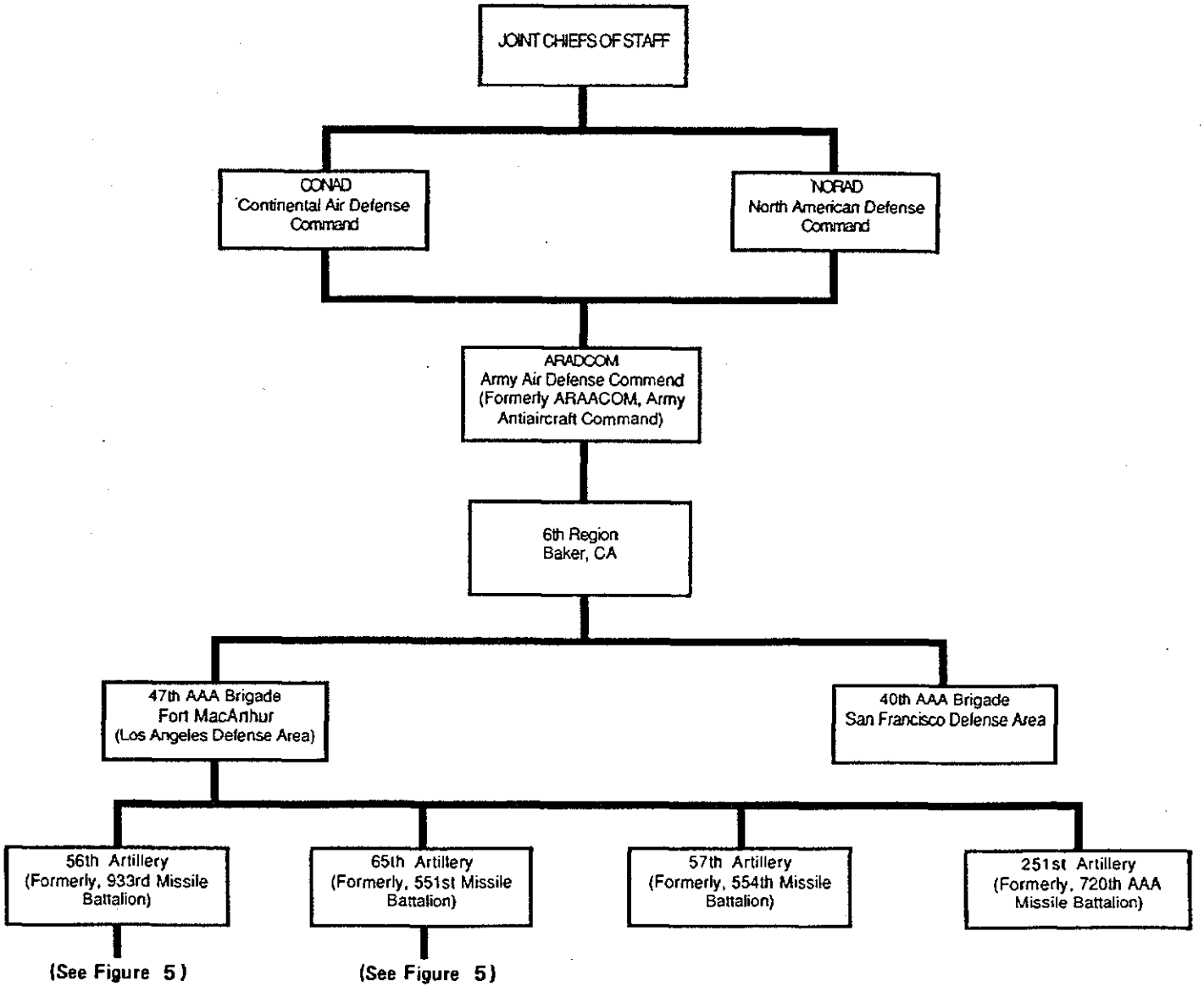
NORAD component commands.



CONAD structure.

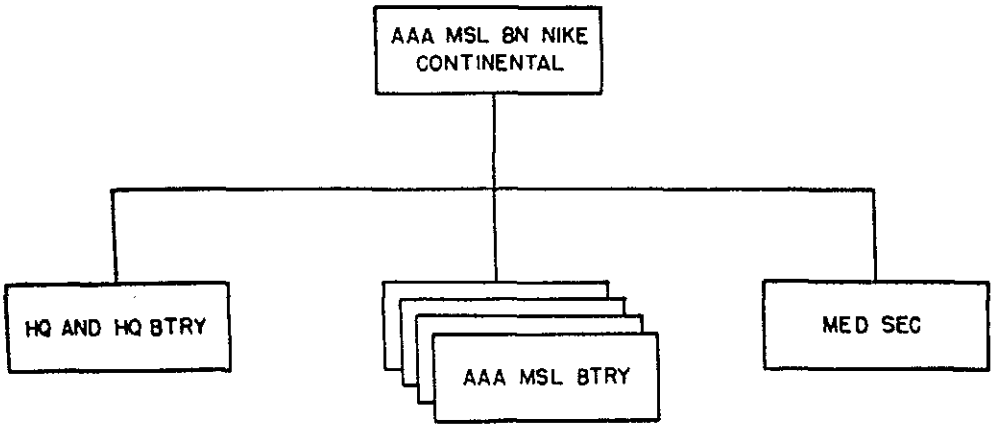
NORAD Component Commands and CONAD Structure

FIGURE 2

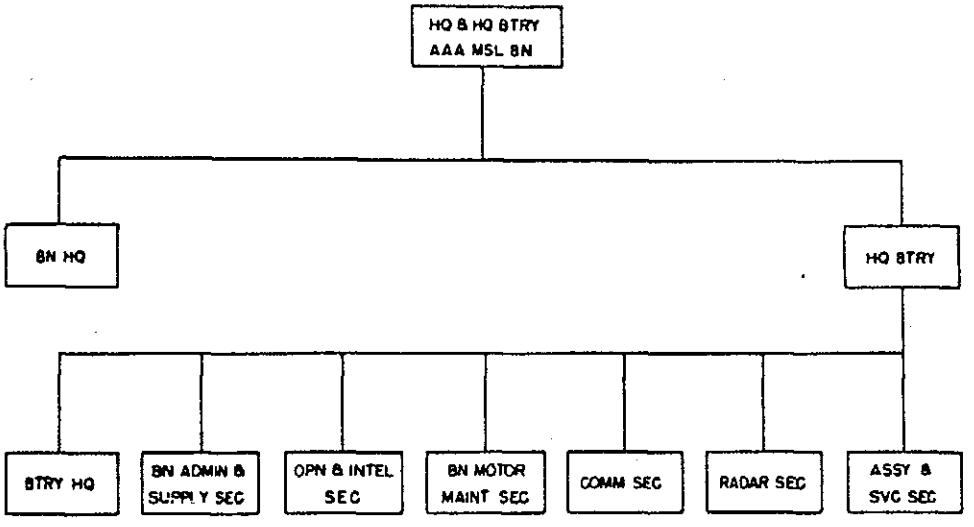


Army Air Defense Command
6th Region

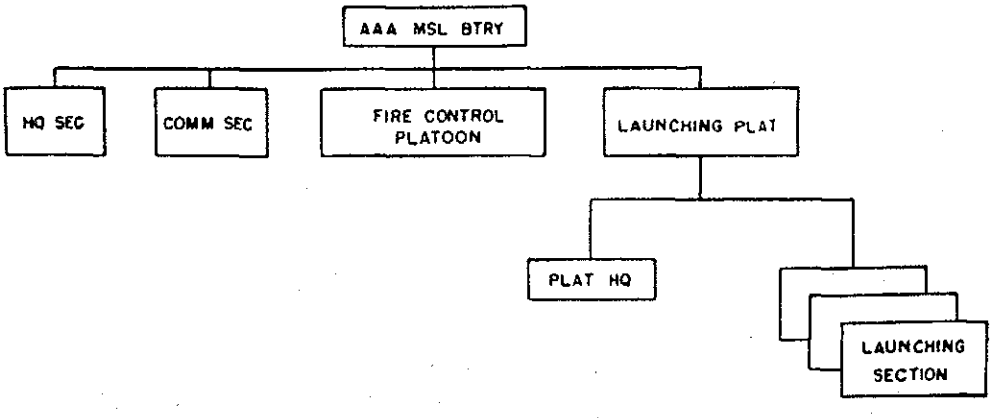
FIGURE 3



Nike I battalion.



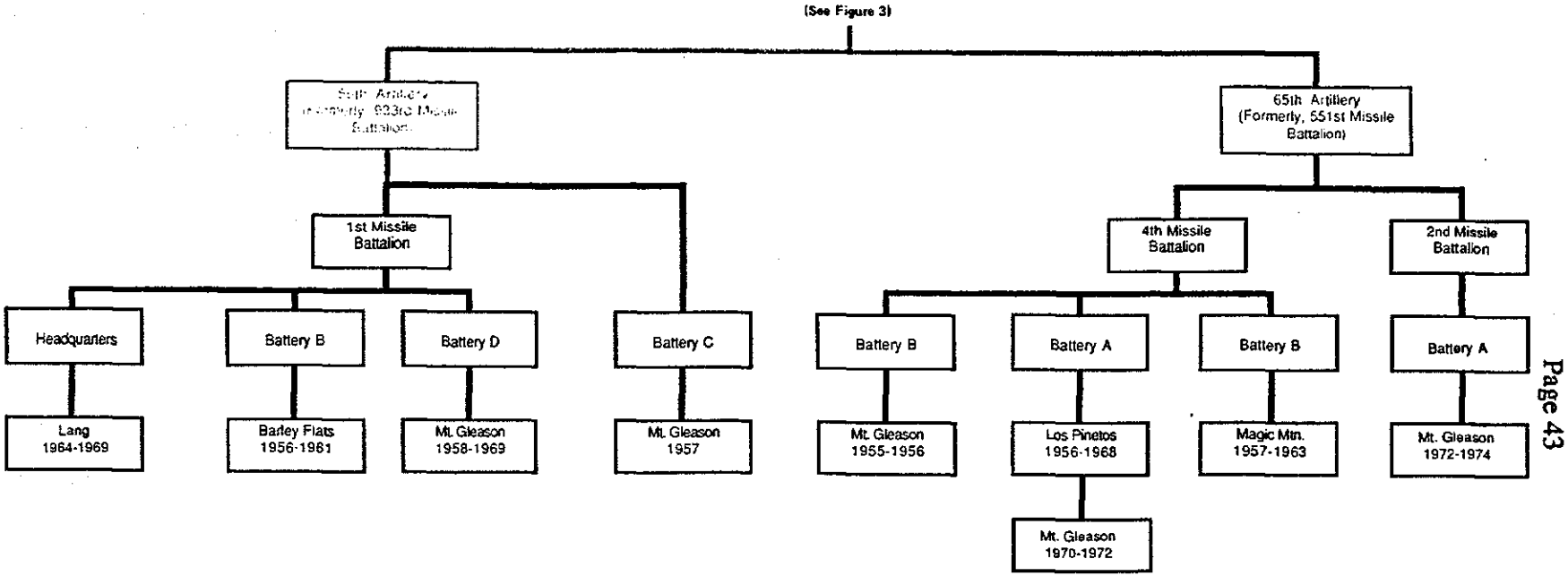
Headquarters and headquarters battery.



AAA missile battery.

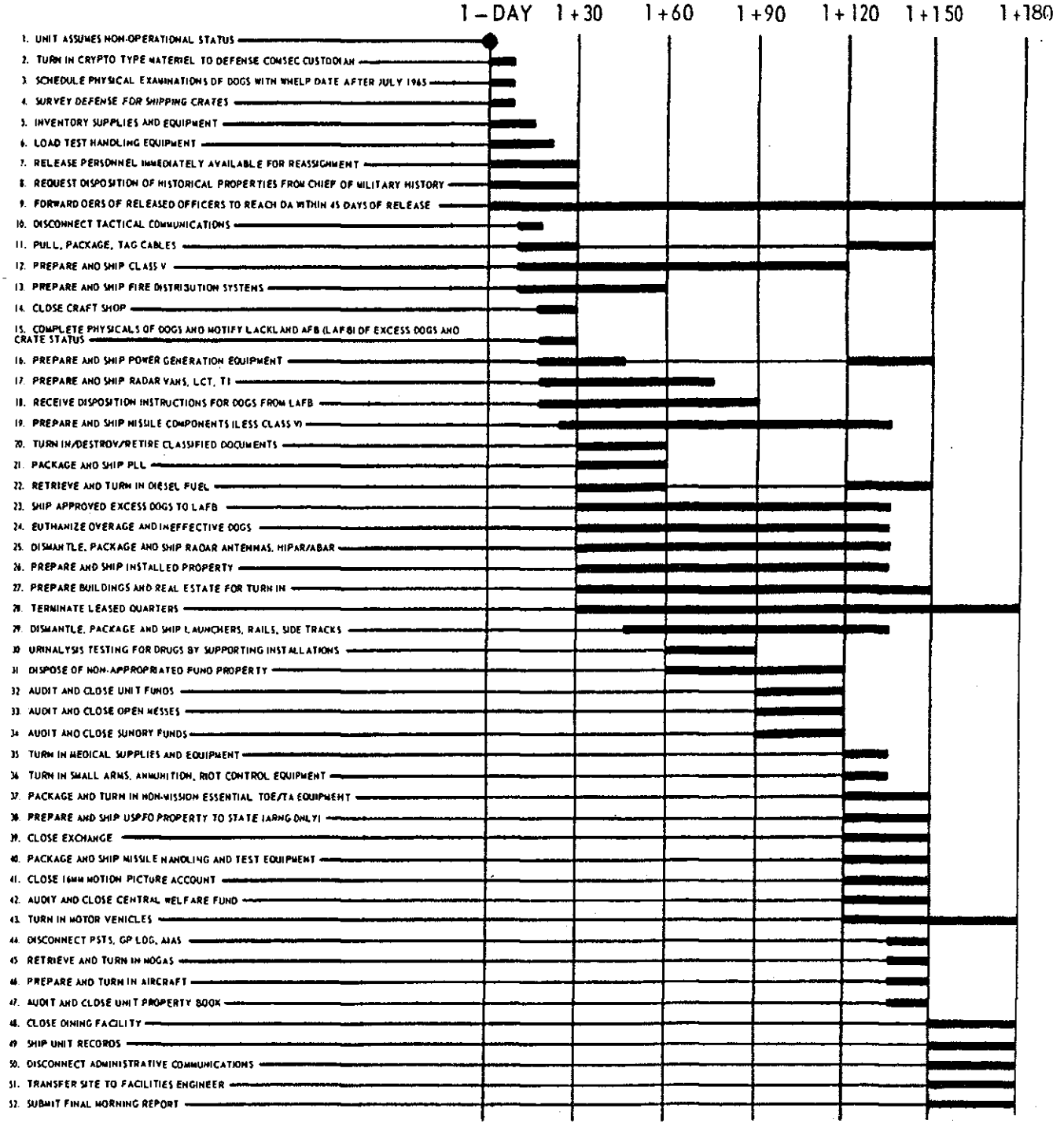
Nike I Battalion, Headquarters and Headquarters Battery, and AAA Missile Battery

FIGURE 4



47th AAA Brigade, 56th and 65th Artillery
Los Angeles Defense Area
Angeles National Forest

FIGURE 5

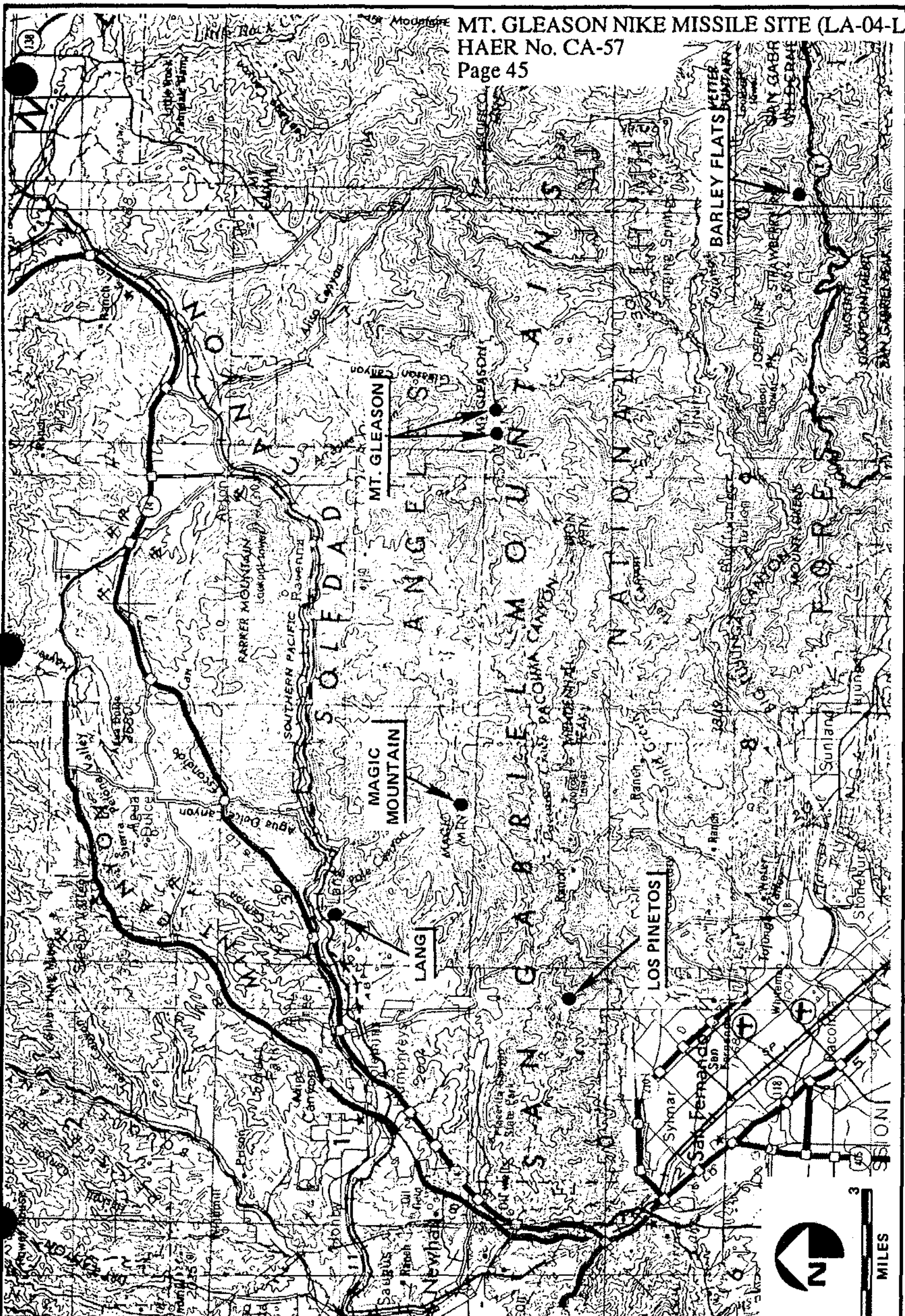


Shown is the general schedule to be followed by most fire units during the phasedown. In some cases the sequence will be changed to accommodate the local situation.

(Sequence and timing may vary based on individual coordination with support agencies)

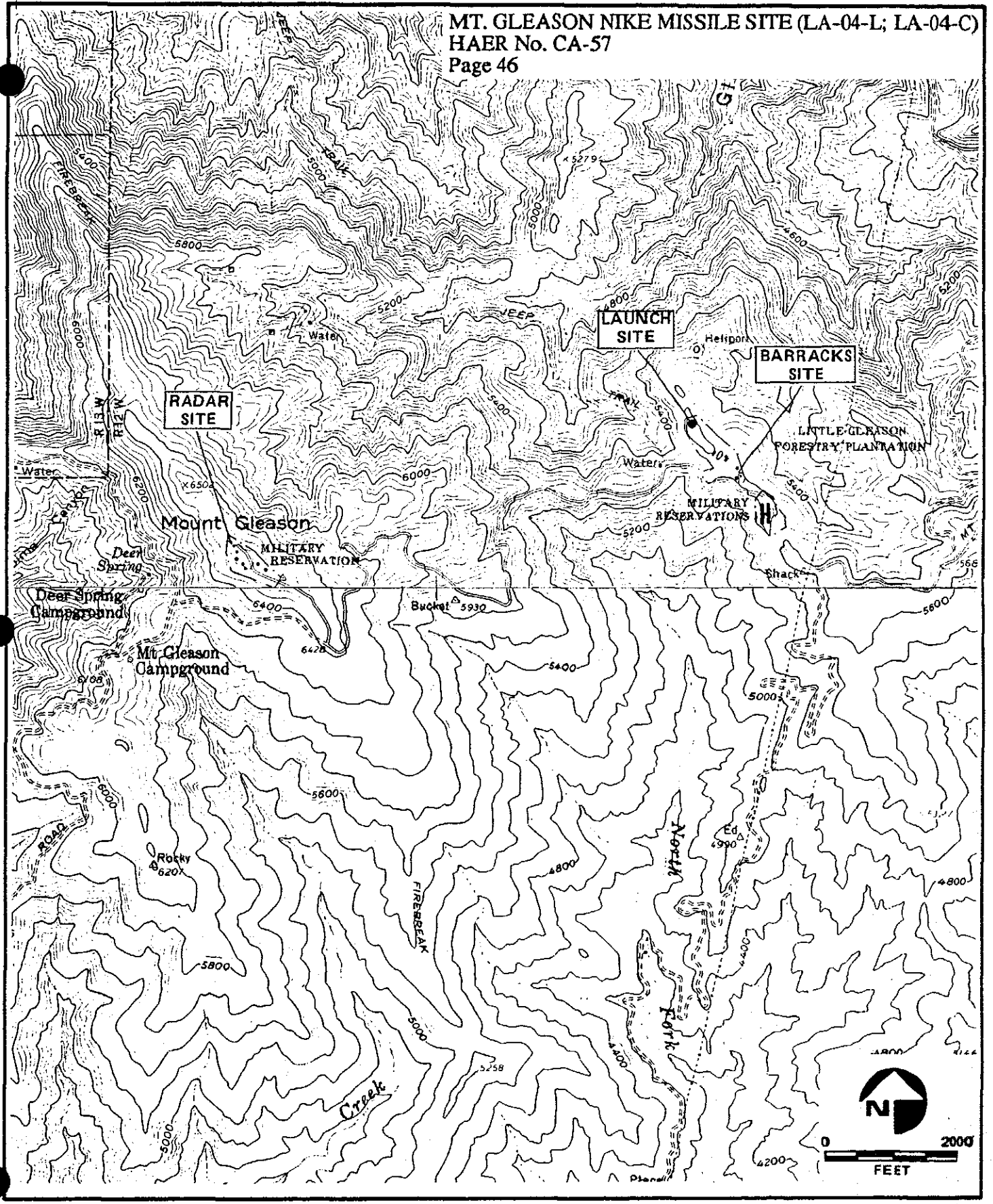
Sequence of Deactivation Events

FIGURE 6



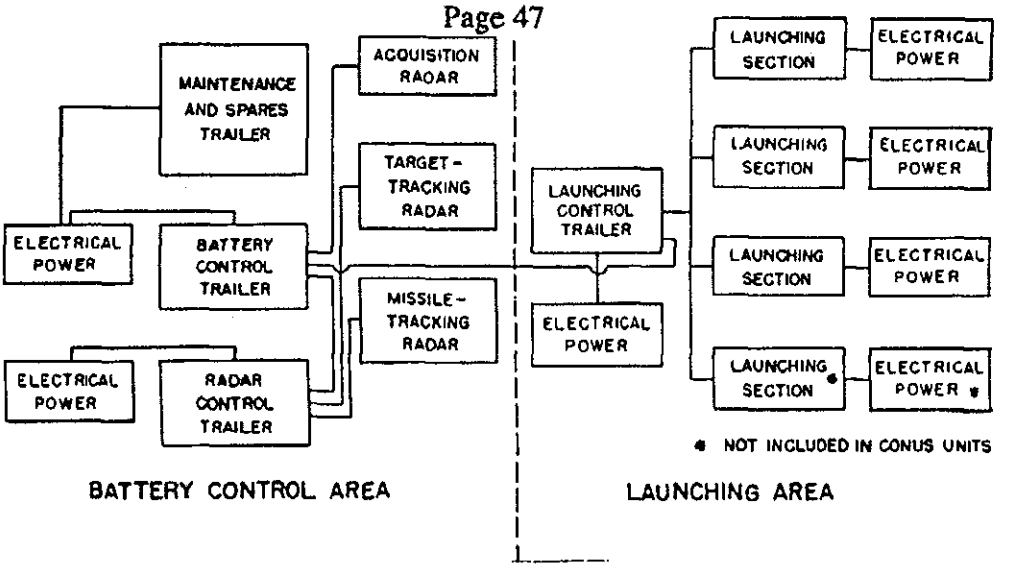
FIGURE

Nike Site Locations
Angeles National Forest
Los Angeles County

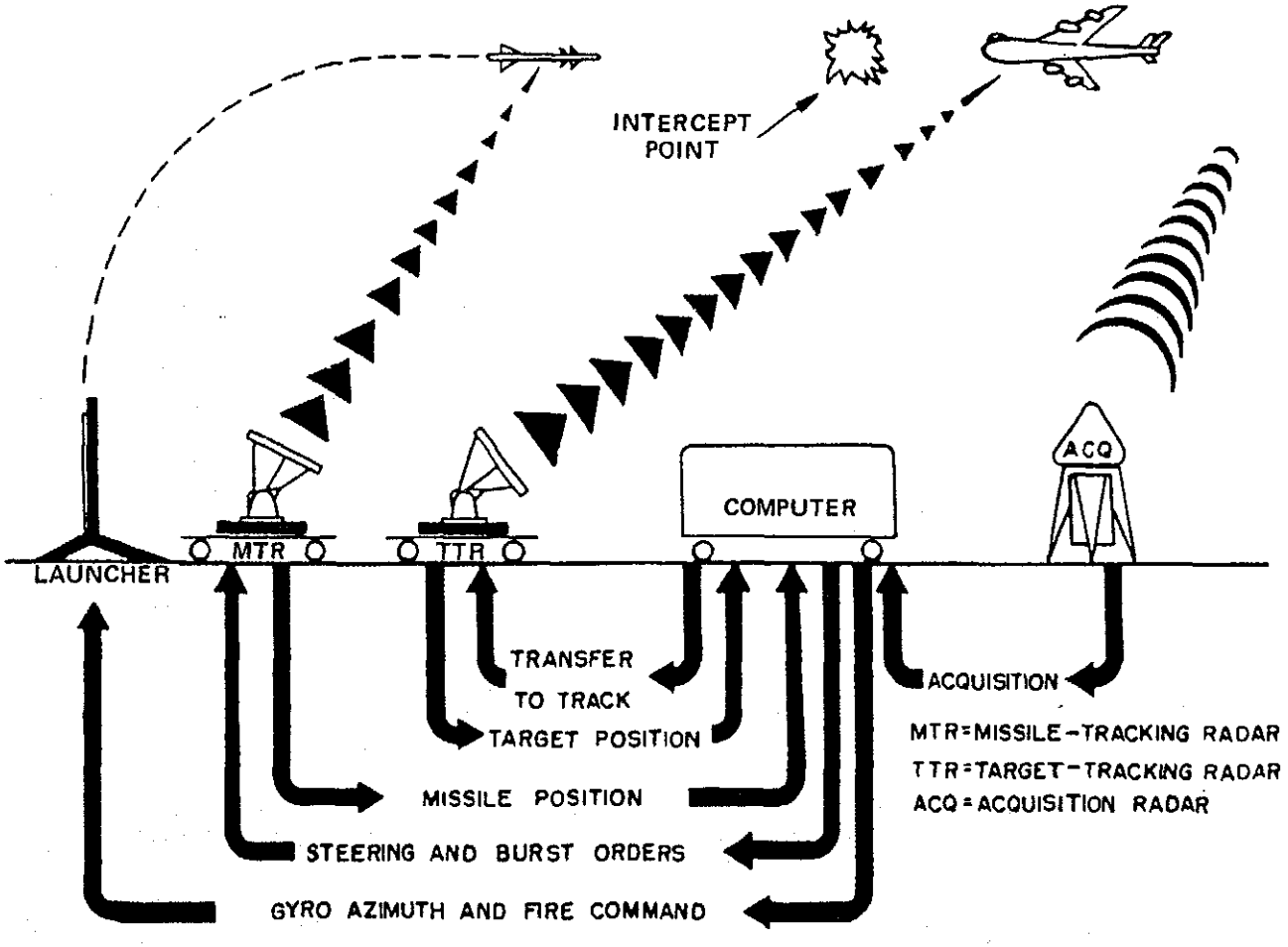


Mount Gleason Nike Site
Angeles National Forest
Los Angeles County

FIGURE 8



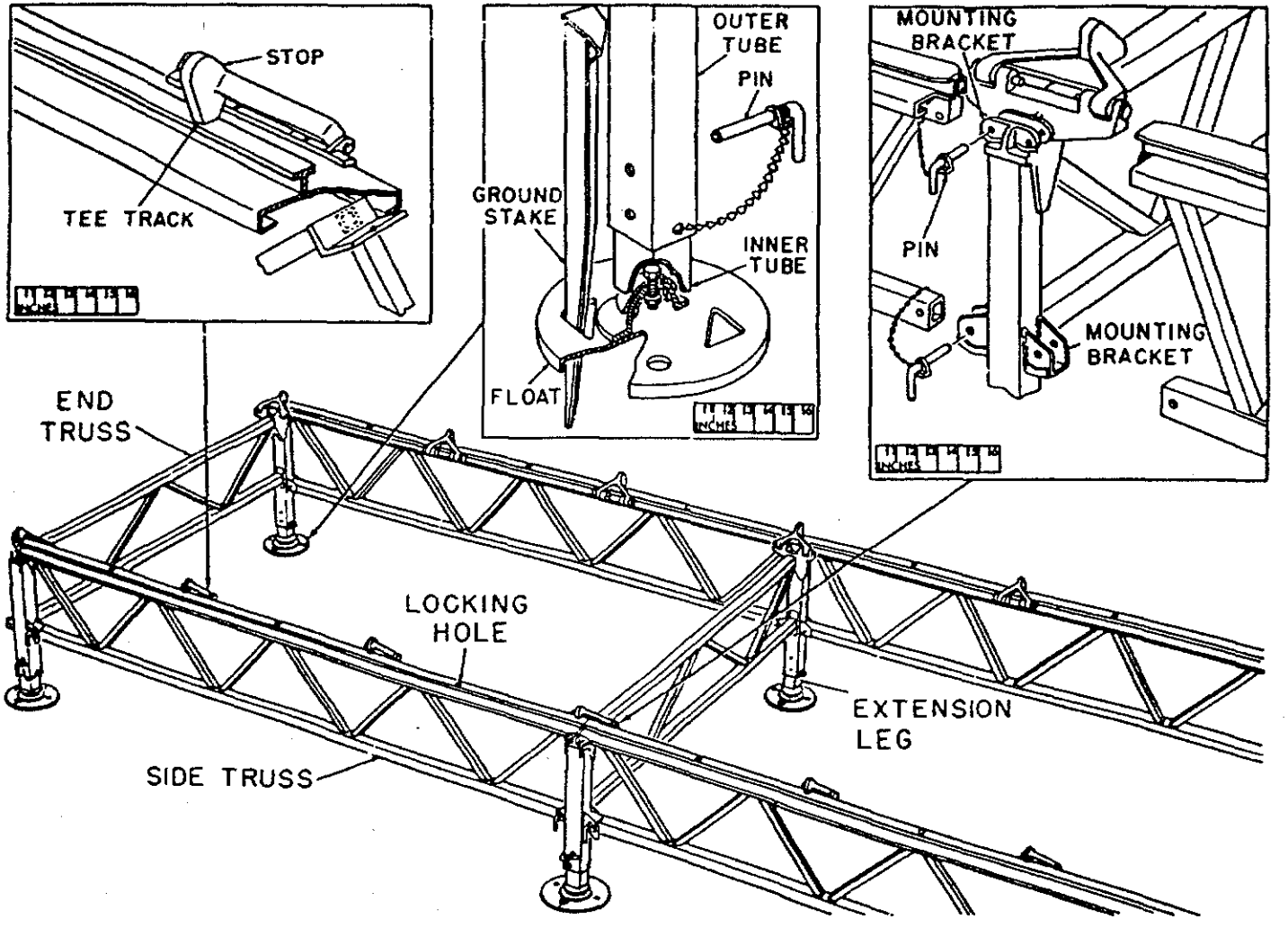
Nike I system.



Data flow.

Nike I System and Data Flow

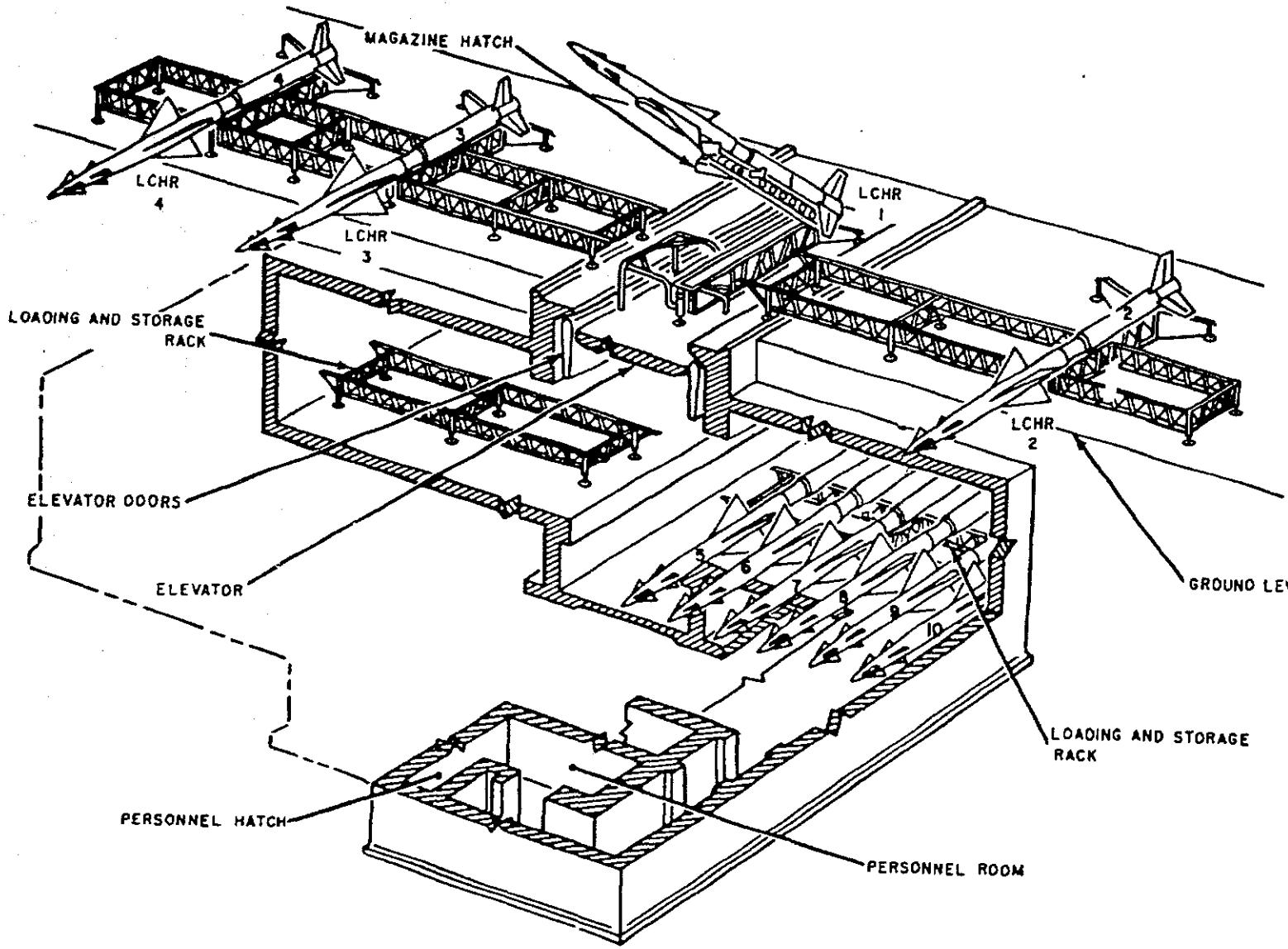
FIGURE 9



Taken from the Department of the Army
Technical Manual FM 44-80 Procedures
and Drills for the Nike I System

Storage Rack

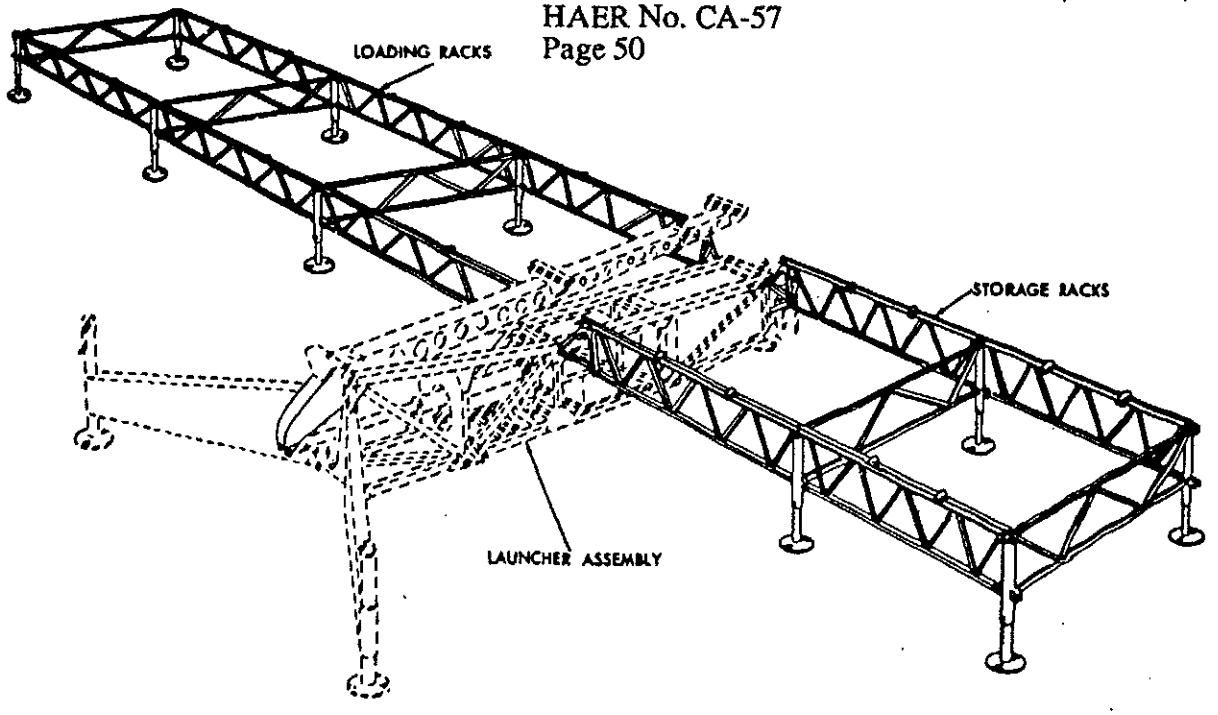
FIGURE 10

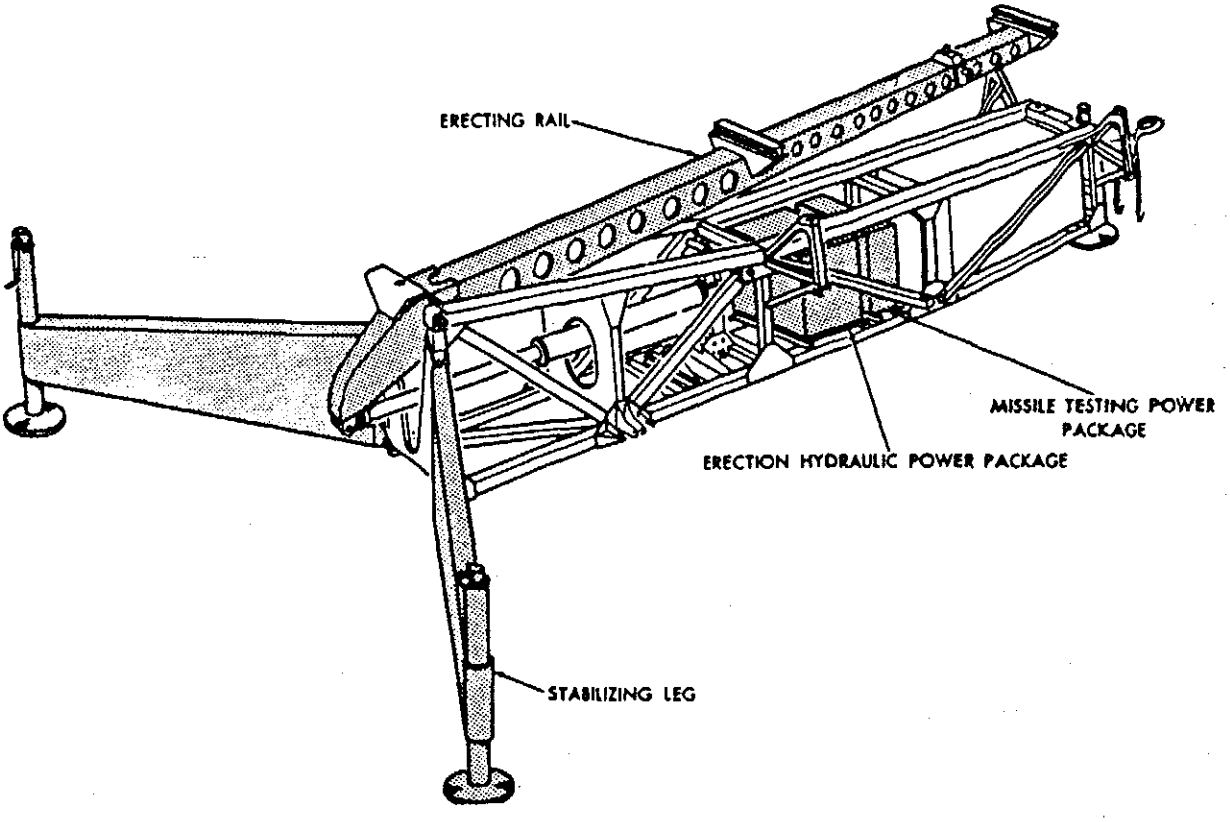


Taken from the Department of the Army Technical Manual FM 44-80 Procedures and Drills for the Nike I System

Cutaway View of Underground Magazine

FIGURE 11

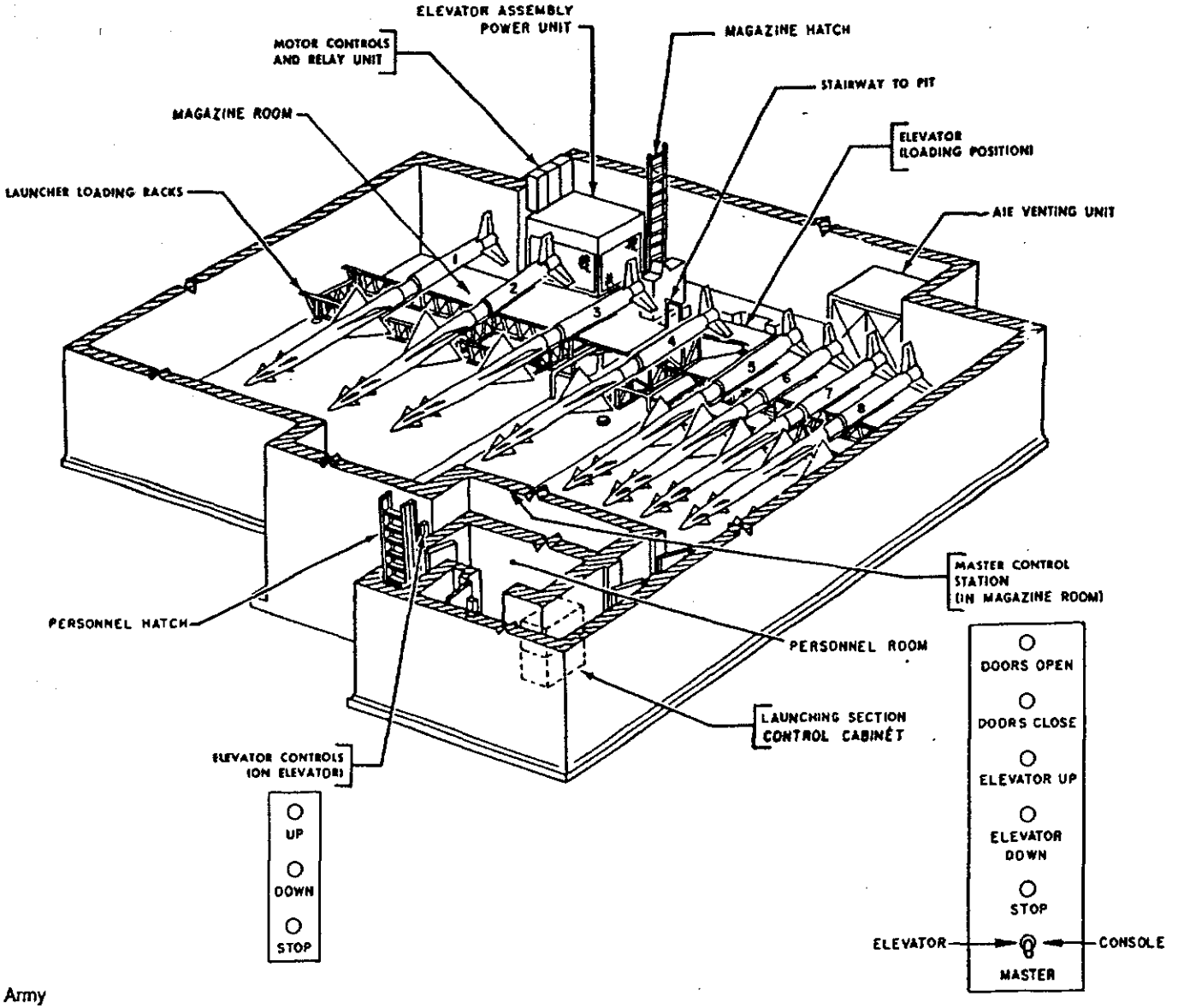




Taken from the Department of the Army Technical Manual FM 44-80 Procedures and Drills for the Nike I System

Launcher and Launcher-Loader Assembly

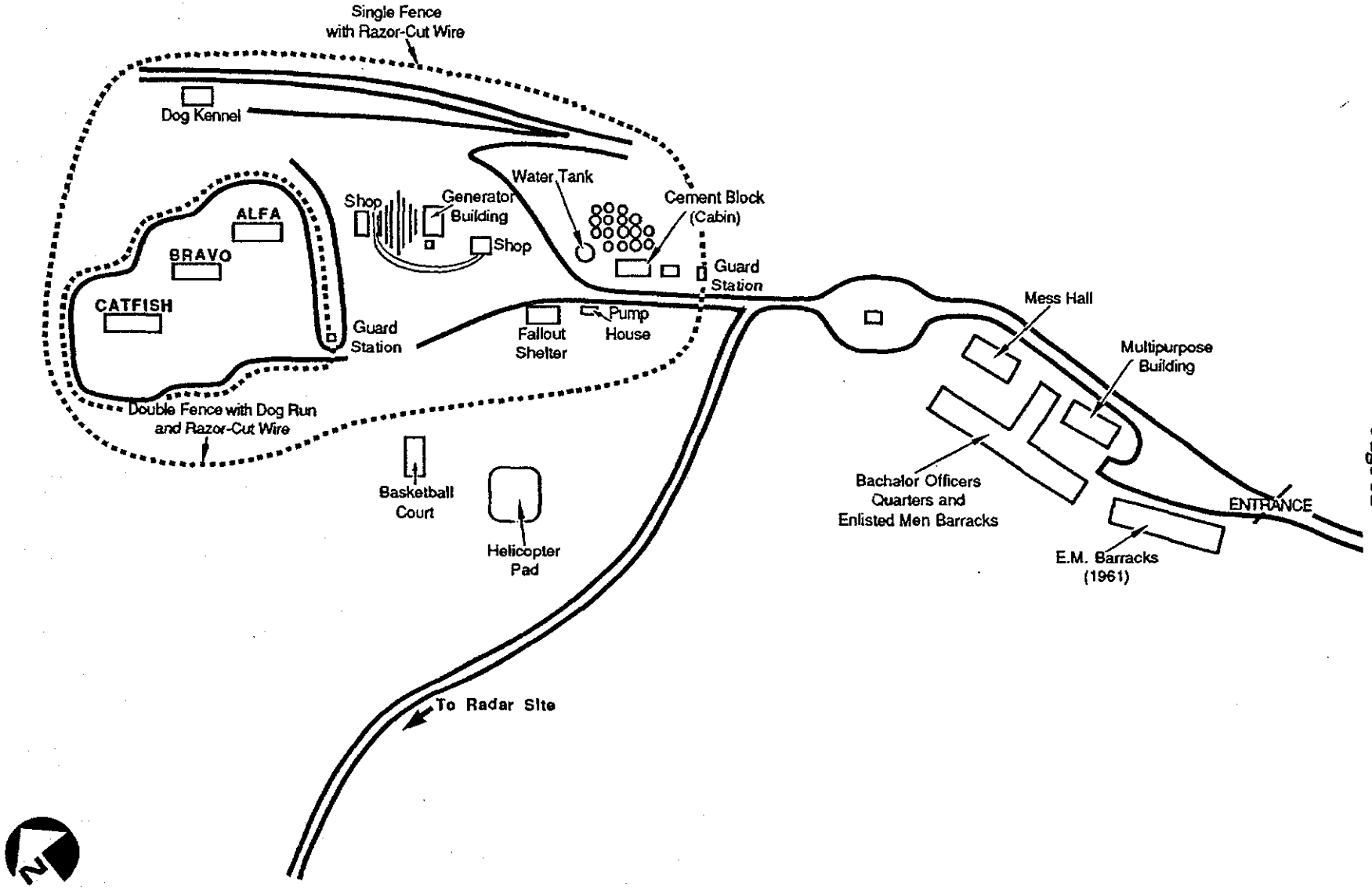
FIGURE 12



Taken from the Department of the Army Technical Manual FM 44-80 Procedures and Drills for the Nike I System

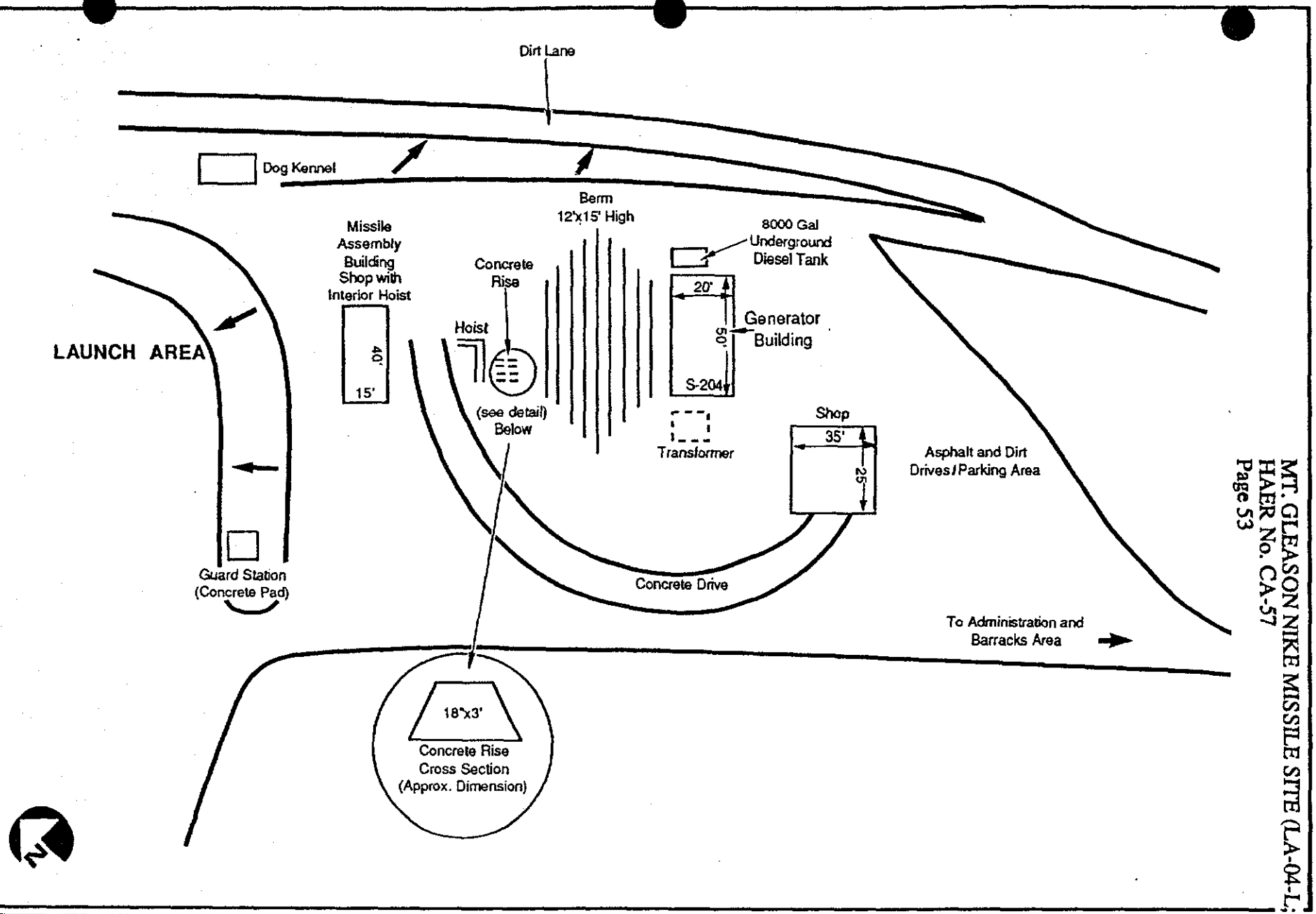
Elevator Controls, Underground Magazine

FIGURE 13



Sketch Map of Mt. Gleason Site

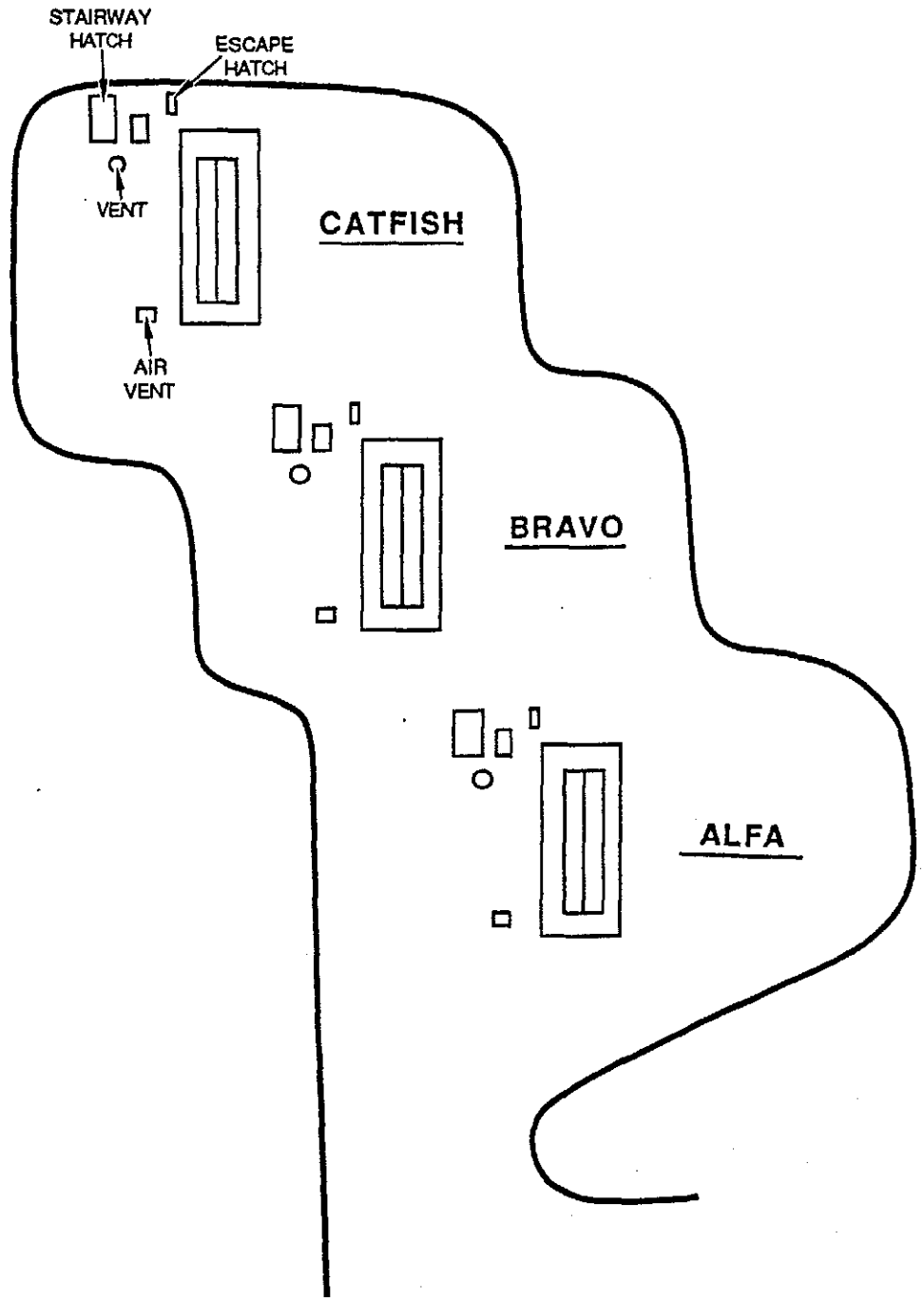
FIGURE 14



Mt. Gleason Launch Area

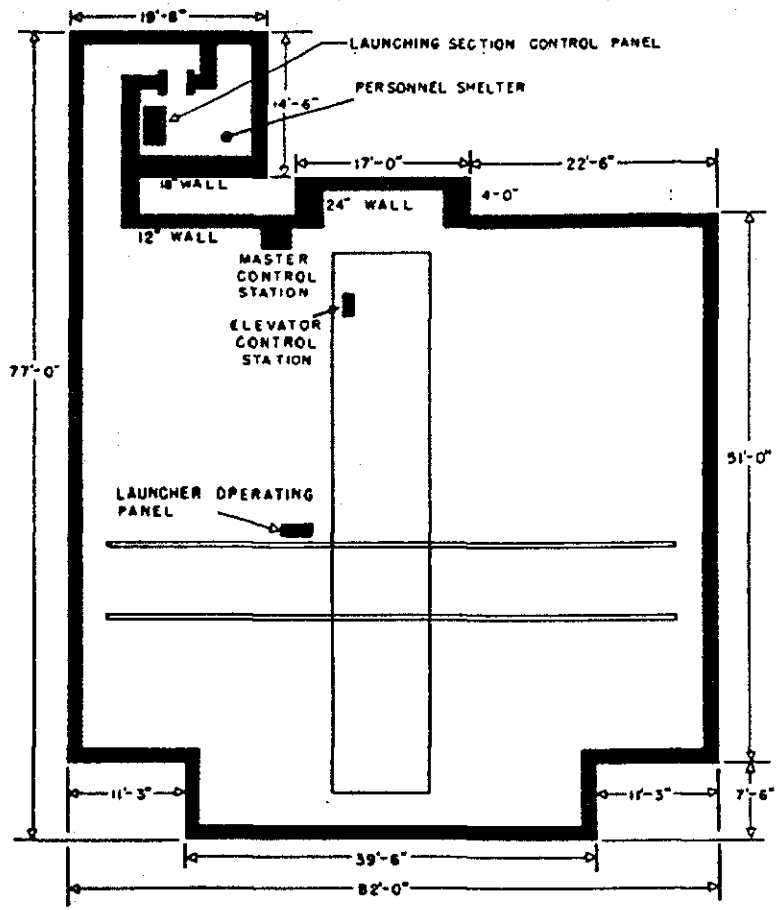
FIGURE 15

MT. GLEASON NIKE MISSILE SITE (LA-04-L; LA-04-C)
HAER No. CA-57
Page 53

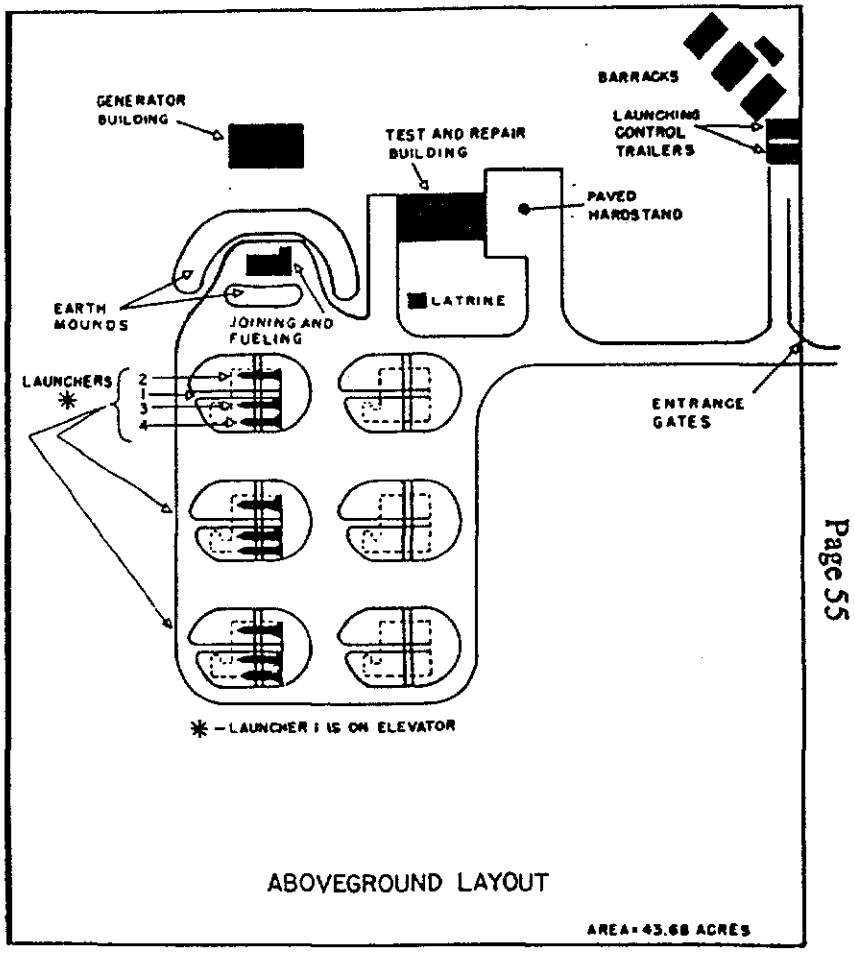


Launch Pad Mt. Gleason Site

FIGURE 16



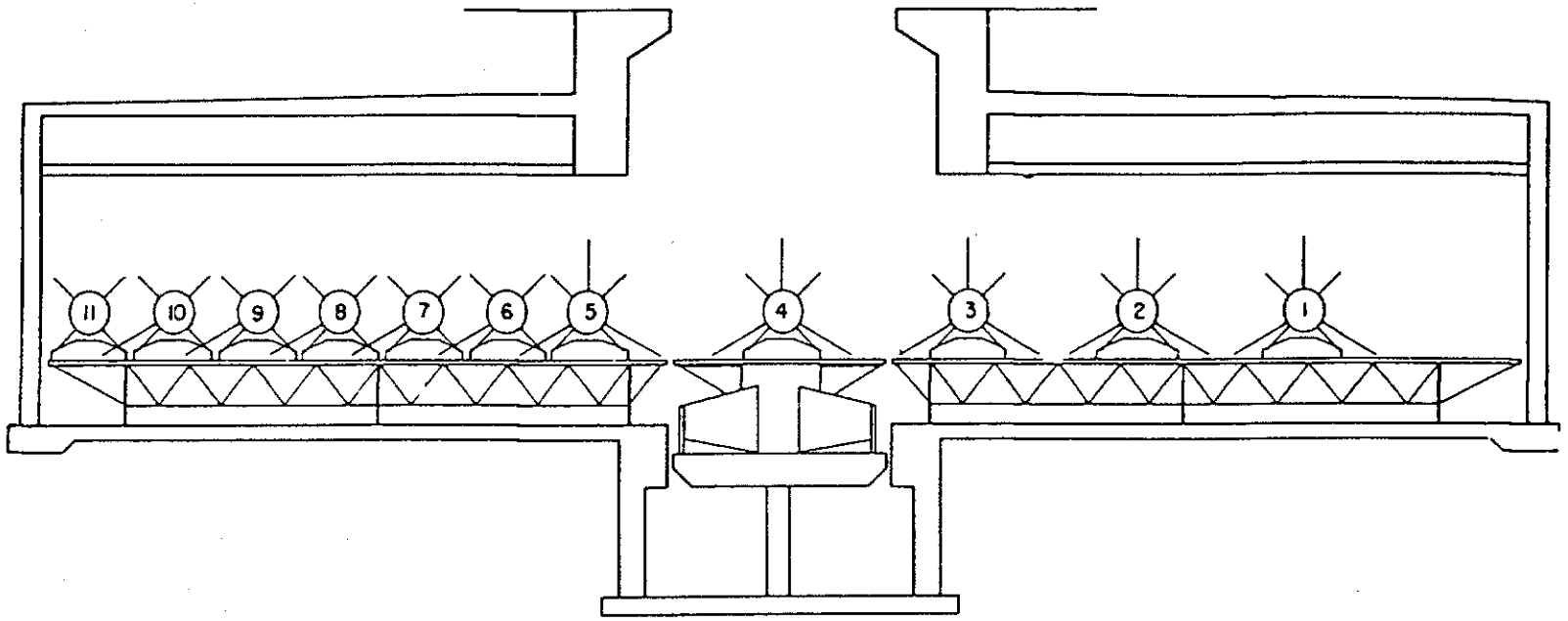
UNDERGROUND LAYOUT



Taken from the Department of the Army
Technical Manual FM 44-80 Procedures
and Drills for the Nike I System

Underground Magazine Type Launching Area

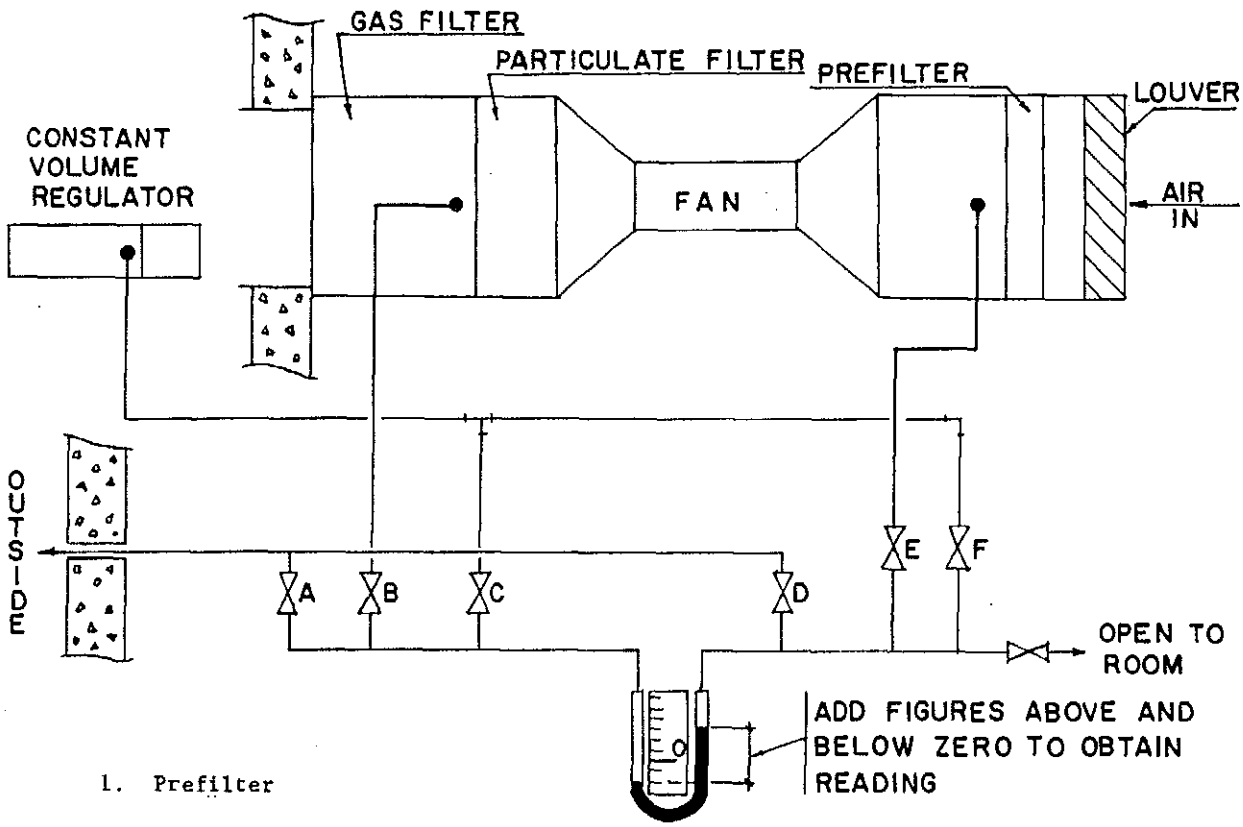
FIGURE 17



Taken from the Department of the Army
Technical Manual FM 44-80 Procedures
and Drills for the Nike I System

Layout of Missiles in Magazine Room

FIGURE 18



1. Prefilter

   a. Close all valves A B C D E F & G
   b. Open valves A & E, reading should be less than 0.5". A reading above 0.5" indicates prefilter should be checked.

2. Constant Volume Regulator

   a. Cloae all valves A B C D E F & G
   b. Open valves A & F, reading should be 1.0" with personnel area pressurized. On Constant Volume Regulators equipped with a manual control lever, an adjustment may be necessary to obtain 1.0" reading.

3. Gas-Particulate Filter

   a. Cloae all valves A B C D E F & G
   b. Open valves B & D, Reading should be between 1.8" and 2.8". A reading less than 1.8" or greater than 2.8" indicates filters should be checked.

Incl 3

Manometer Operating Instructions, 60 Man Fallout Shelter, Manometer (U-TUBE)

FIGURE 19

APPENDIX A: ARAACOM/ARADCOM: GENERAL TIME LINE 1950-1966

The following is intended to highlight the major developments in the history of ARAACOM and ARADCOM with specific references to the Los Angeles Defense Area. The final years in this history (1968-1974) are described in the section of this report entitled ARADCOM Deactivation 1968-1974.

1950 General Order Number 20, Department of the Army, 20 June 1950, established the Army Antiaircraft Command (now United States Army Air Defense Command). The headquarters was located initially at the Pentagon, Washington, D.C.

1950 Major General Willard W. Irvine assigned as first commander to ARADCOM.

1950 Eastern and Western Army Antiaircraft Commands established by General Order Number 3, Headquarters Army Antiaircraft Command, 28 August 1950.

1950 Headquarters Army Antiaircraft Command moved from the Pentagon to Mitchel Air Force Base, New York.

1950 The Army Antiaircraft Command assigned responsibility for the detailed planning of the nation's antiaircraft artillery defense system.

1951 ARAACOM Headquarters moved to Colorado Springs, Colorado. The headquarters were first located in the Antlers Hotel and later were moved to their present location at Ent Air Force Base.

1951 All antiaircraft units allocated to the air defense of the United States were placed under the Army Antiaircraft Command.

1951 Central Army Antiaircraft Command established headquarters near Kansas City, Missouri. Central ARAACOM was the forerunner of the present 4th Region, U.S. Army Air Defense Command.

1952 Lt. General John T. Lewis became commanding general, Army Antiaircraft Command.

1953 First tactical Army troops fired the Nike. The event occurred at the Red Canyon (New Mexico) Range, near Fort Bliss, Texas. Firing personnel were assigned to the 36th AAA Missile Battalion.

1953 The 36th AAA Missile Battalion moved onsite at Fort George G. Meade, Maryland. This was the first operational missile unit in ARAACOM.

1954 Second and 5th Regions US ARADCOM, established as "AA Regional Army Administrative Units" by General Order Number 14, Headquarters ARAACOM, 1 July 1954.

1954 Department of Defense combined elements of all military services into a single Continental Air Defense Command (now North American Air Defense Command), directly under the Joint Chiefs of Staff.

1954 Lt. General Stanley R. Michelsen became commanding general, Army Antiaircraft Command.

1955 Western Army Antiaircraft Command renamed 6th AA Region and Central ARAACOM became Central AA Region.

1955 The number of Nike-Ajax battalions deployed around principal cities and industrial areas equaled the number of conventional battalions similarly deployed.

21 Dec 1955 ARAACOM authorized for the first time to lease family housing units near Nike site. A total of 750 units were allocated regional commands.

11 Jan 1956 Department of the Army reassigned responsibility for supervision of training of National Guard nondivisional antiaircraft artillery units from Continental Army Command to the Army Antiaircraft Command.

01 Jul 1956 Central AA Region redesignated as 4th AA Region.

01 Sep. 1956 Antiaircraft units at Thule, Greenland, assigned to ARAACOM and further assigned to 1st AA Regional Command.

26 Feb 1957 A new Nike-guided missile, designated as Nike-Hercules, with nuclear capability and many times the destructive power of Nike-Ajax, underwent final tests.

21 Mar 1957 Army Antiaircraft Command redesignated as the United States Army Air Defense Command. In April 1957, the names of regional commands were changed to conform to the new designation.

11 Jun 1957 Successful development of the Hawk air defense missile was announced by Department of the Army. Hawk was designated to complement the defense provided by the Nike system by reinforcing Nike's low-altitude capability.

01 Nov 1957 Lt. General Charles E. Hart became the U.S. Army Air Defense Command's fourth commanding general.

05 Dec 1957 The first Missile Master, an electronic system for automatically coordinating air defense weapons, became operational in the Washington-Baltimore defense area under the 35th Air Defense Artillery Brigade.

20 Mar 1958 Names of "Antiaircraft Artillery" bridgades and groups changed to "Air Defense Artillery."

24 Apr 1958 The 738th AAA Missile Battalion fired the first Ajax missile to be launched by tactical troops from the new universal Nike-Hercules system which was designed to fire either Ajax or Hercules.

28 Apr 1958 Nike-Hercules fired for the first time by U.S. Army Air Defense Command troops. The first four units to fire Hercules were: 738th AAA Missile Battalion (28 April); 36th AAA Missile Battalion (29 April); 505th AAA Missile Battalion (1 May); 485th AAA Missile Battalion (2 May).

01 May 1958 Officer personnel authorized to wear the new artillery insignia. The new insignia incorporates the traditional crossed cannons of the artillery, with a stylized, upright missile superimposed over the center of the cannons. Enlisted men assigned to missile units were authorized the new insignia on 15 October 1958.

01 May 1958 The United States Army Air Defense Command uniform shoulder insignia was changed to eliminate the "AA" and add two symbolic radar beams. The new patch was more illustrative of the dynamic electronic and missile complexities of the command.

1958 A Nike-Hercules missile engaged and destroyed a Navy-developed Pogo-Hi target at an altitude of 20 miles and a HAWK missile was successfully fired at a QX-5 missile target, both at White Sands Missile Range, New Mexico.

A newly designed drone target, launched at the Red Canyon firing range in New Mexico, was blasted from the sky by a Nike-Ajax fired by Battery. C., 1st Missile Battalion, 56th Artillery. (Mt. Gleason), Los Angeles Defense Area, at a range of about 18 miles. Sentry dogs were assigned to Nike-Hercules site to ensure greater security at night.

The first conference of regional commanders was held in Colorado Springs. Commanding generals attending the conference were Lt. Gen. Charles E. Hart, ARADCOM; Maj. Gen. Lagare K. Tarrant, 1st Region; Maj. Gen. Parmer W. Edwards, 2nd Region; Col. Leslie J. Staub, 4th Region; Maj. Gen. Eugene F. Cardwell, 5th Region, and Maj. Gen. Edward G. McGaw, 6th Region.

1959 Men at Battery B, 1st Missile Battalion, 56th Artillery, Los Angeles Defense Area, engaged in a 24-hour-a-day, 7-day vigil to save the mile-high Nike radar site on Mt. Disappointment from the blazing path of the 14,200-acre Angeles National Forest fire.

1960 For the first time, a missile unit won the ARADCOM Commander's Trophy for the best ARNG air defense unit. Previously, the trophy had been won by ARNG units using 90-mm guns.

Nike-Zeus, the nation's first defense against ballistic missiles, "is no longer a question of scientific breakthrough, but one of funds," Lt. General Charles E. Hart, ARADCOM commanding general, stated at the dedication of the Army's Fort Lawton, Washington, Missile Master.

A Nike-Hercules missile destroyed a Corporal ballistic missile in a demonstration 3 June at White Sands Missile Range, New Mexico.

Plans to strengthen the air defenses of 11 metropolitan areas by replacement of 19 Nike-Ajax missile batteries with a similar number of Nike-Hercules batteries were announced by the Department of the Army.

1961 The 4th Missile Battalion, 251st Artillery, (Brea) California ARNG, Los Angeles Defense Area, was awarded the ARADCOM Commander's Trophy as the best ARNG air defense unit.

An all-time firing record was set by an ARNG battalion in the Los Angeles Defense Area when four Ajax batteries of the 4th Missile Battalion, 251st Artillery, California ARNG, posted a score of 96.3 during Annual Service Practice.

Sp4 Dave Lawrence, 4th Missile Battalion, 65th Artillery, Los Angeles Defense Area, became the first amateur since 1953 to win the $5,000 California State Open Golf Championship.

A distinctive decal portraying the Nike system as "a weapons family with a future" was approved by ARADCOM headquarters for command-wide use.

1962 The 12th AD Artillery Group was deactivated at Pasadena, California, and its functions assumed by the 1st Missile Battalion, 56th Artillery, and the 4th Missile Battalion, 65th Artillery, units under the 47th AD Artillery Brigade.

Changes in SNAP (short notice) firing operations were announced, including those in missile assembly, missile preparation, time limits, targets, scoring, and the selection of an honor battery.

1963 All Nike-Ajax units in ARADCOM completed their firing for the year and it was announced that henceforth, only Hercules and HAWK units would fire in the SNAP program.

1965 The Sprint missile was successfully launched from an underground cell at White Sands Missile Range, New Mexico. Lt. General Charles B. Duff, ARADCOM commanding general.

A reorganization of ARADCOM was announced under which 10 defenses would go under the control of group headquarters.

Sp6 Gilbert N. Curry, Battery D, 1st Missile Battalion, 56th Artillery, at Mt. Gleason, Los Angeles Defense Area, was awarded the Soldier's Medal for rescuing a driver from a burning vehicle.

1966 Battery D, 4th Missile Battalion, 251st Artillery, Los Angeles Defense Area, became the first unit in ARADCOM to fire a perfect score at McGregor Range, New Mexico, since FY 62.

A brush fire that claimed 11 lives at Los Pinetos as it swept through the San Gabriel Mountains in the Los Angeles area was turned back by missilemen of Battery A, 1st Missile Battalion, before it destroyed the battery site.

APPENDIX B: MILITARY HISTORY: ANGELES FOREST NIKE SITES

1955		
551st	AAA Missile (NIKE) (Continental) (Army AA Comd) (Less Btrys A & B)	Los Angeles, CA Fort MacArthur
	Btry B	Mount Gleason, CA (Site 04)
1956		
551st	AAA Missile (NIKE) (Continental) (Army AA Comd) (Less Btrys A & B)	Birmingham Hospital Van Nuys, CA
	Btry B	Mount Gleason, CA (Site 04)
1957		
551st	AAA Missile (NIKE) (Continental) (US ARADCOM) (Less Btrys A, B, & C)	Birmingham Hospital Van Nuys, CA
	Btry A	Los Pinetos, San Fernando, CA (Site-94)
	Btry B	Magic Hill, San Fernando, CA (Site-98)
554th	AAA Missile (NIKE) (Continental) (US ARADCOM) (Less Btry B)	Fort MacArthur, CA
933rd	AAA Missile (NIKE) (Continental) (US ARADCOM) (Less Btrys A, B, C, & D)	Fort MacArthur, CA
	Btry B	Mt. Disappointment, CA (Site LA-09)
	Btry C	Mount Gleason, CA (Site-04)
1958		
551st	AAA Missile (NIKE) (Continental) (US ARADCOM) (Less Btrys A, B, & C)	Birmingham Hospital Van Nuys, CA

	Btry A	Los Pinetos, San Fernando, CA (Site-94)
	Btry B	Magic Hill, San Fernando, CA (Site-LA-98)
933rd	AAA Missile (NIKE-AJAX) (Continental) (US ARADCOM) (Less Btrys A, B, C, & D)	Pasadena, CA
	Btry B	Pasadena, CA (Site LA-09)
	Btry C	Pasadena, CA (Site-04)
1959		
56th Arty	1st Msl Bn (NIKE-AJAX) (US ARADCOM) (Less Btrys A, B, C, & D)	Pasadena, CA (PO Pasadena Area Spt Ctr, 95 S. Grand Ave.)
	Btry B	Pasadena, CA (Site LA-09)
65th Arty	4th Msl Bn (NIKE-HERCULES) (US ARADCOM) (Less Btrys A, B, & C)	Birmingham Army Hospital Van Nuys, CA
	Btry A	Los Pinetos, San Fernando, CA (Site-94)
	Btry B	Magic Hill, San Fernando, CA (Site-LA-98)
1960		
56th Arty	1st Msl Bn (NIKE-AJAX) (US ARADCOM) (Less Btrys A, B, C, & D)	McCormack Hospital Pasadena, CA (PO Pasadena Area Spt Ctr, 95 S. Grand Ave.)
	Btry B	Pasadena, CA (Site LA-09)
	Btry D	Pasadena, CA (Site LA-04)

65th Arty	Msl Bn (NIKE-HERCULES) (US ARADCOM) (Less Btrys A, B, & C)	Birmingham Army Hospital Van Nuys, CA
	Btry A	Los Pinetos, San Fernando, CA (Site-94)
	Btry B	Magic Hill, San Fernando, CA (Site-LA-98)

1961

56th Arty	1st Msl Bn (NIKE-AJAX) (ARADCOM) (Less Btrys A, B, C, & D)	Pasadena, CA (PO Pasadena Area Spt Ctr, 95 S. Grand Ave.)
	Btry B	Pasadena, CA (Site LA-09)
	Btry D	Pasadena, CA (Site LA-04)
65th Arty	4th Msl Bn (NIKE-HERCULES) (ARADCOM) (Less Btrys A, B, & C)	Van Nuys, CA
	Btry A	Los Pinetos, San Fernando, CA (Site-94)
	Btry B	Magic Hill, San Fernando, CA (Site-LA-98)

1962

56th Arty	1st Msl Bn (NIKE-HERCULES) (ARADCOM) (Less Btrys A, B, C, & D)	Fort MacArthur, CA
	Btry D	Pasadena, CA (Site LA-04)
65th Arty	4th Msl Bn (NIKE-HERCULES) (ARADCOM) (Less Btrys A, B, C, & D)	15900 Victory Blvd., Van Nuys, CA
	Btry A	Los Pinetos, San Fernando, CA (Site-94)

	Btry B	Magic Hill, San Fernando, CA (Site-LA-98)
1963		
56th Arty	1st Msl Bn (NIKE-HERCULES) (ARADCOM) (Less Btrys A, B, C, & D)	Pasadena Area Spt Cntr, 95 S. Grand Ave, CA
	Btry D	Pasadena, CA (Site LA-04)
65th Arty	4th Msl Bn (NIKE-HERCULES) (ARADCOM) (Less Btrys A, B, C, & D)	15900 Victory Blvd., Van Nuys, CA
	Btry A	Los Pinetos, San Fernando, CA (Site-LA-94)
	Btry B	Magic Hill, San Fernando, CA (Site-LA-98)
1964		
56th Arty	1st Msl Bn (NIKE-HERCULES) (ARADCOM) (Less Btrys A & D) (To move to Site 98, Lang, CA on 25 June 64, on PCS)	Pasadena Area Spt Cntr, 95 S. Grand Ave, CA
	Btry A	Pasadena Area Spt Cntr, 95 S. Grand Ave, CA
	Btry D	Pasadena, CA (Site LA-04)
65th Arty	Btry A	Van Nuys, CA (Site LA-94) 91401
1965		
56th Arty	1st Msl Bn (NIKE-HERCULES) (ARADCOM) (Less Btrys A & D)	Lang, CA (Site 98) (PO Saugus, CA 91350)
	Btry A	Van Nuys, CA (Site LA-94)

	Btry D	Pasadena, CA (Site LA-04)
1966		
56th Arty	1st Msl Bn (N1KE-HERCULES) (ARADCOM) (Less Btrys A & D)	Lang, CA (Site 98) (PO Saugus, CA 91350)
	Btry A	Van Nuys, CA (Site LA-94)
	Btry D	Pasadena, CA (Site LA-04)
1967		
56th Arty	1st Bn (WAW4) (NIKE-HERCULES) (ARADCOM) (Less Btrys A & D)	Lang, CA (Site 98) (PO Saugus, CA 91350)
	Btry A	Van Nuys, CA (Site LA-94)
	Btry D	Pasadena, CA (Site LA-04)
1968		
56th Arty	1st Bn (WAW4) (NIKE-HERCULES) (ARADCOM) (Less Btrys A & D)	Lang, CA (Site 98)
	Btry A	Van Nuys, CA (Site LA-94)
	Btry D	Pasadena, CA (Site LA-04)
1969		
56th Arty	1st Bn (WAW4) (NIKE-HERCULES) (ARADCOM) (Less Btrys A & D)	Lang, CA (Site 98) (PO Saugus, CA 91350)
	Btry A	Newhall, CA (Site LA-94)
	Btry D	Palmdale, CA (Site LA-04)
65th Arty	4th Bn (WAXE) (NIKE-HERCULES) (ARADCOM) (Less Btrys A, B, C, & D)	15900 Victory Blvd., Van Nuys, CA 91401
	Btry A	Palmdale, CA (Site LA-04)
1970		
65th Arty	4th Bn (WAXE) (NIKE-HERCULES) (ARADCOM) (Less Btrys A, B, C, & D)	15900 Victory Blvd., Van Nuys, CA 91401
	Btry A	Palmdale, CA (Site LA-04)

1971

65th Arty	(To be Inactivated o/a 30 Jun 71) 4th Bn (WAXE) (NIKE-HERCULES) (ARADCOM) (Less Btrys A, B, C, & D)	15900 Victory Blvd., Van Nuys, CA 91406
	Btry A	Palmdale, CA (Site LA-04)

1972 - 1974

65th Arty	2nd Bn	
	Btry A	Palmdale, CA (Site LA-04)

TRANSFER AND ACCEPTANCE OF MILITARY REAL PROPERTY

PAGE 1 OF 4 PAGES

1. FROM: (Installation/Activity/Service) and Zip code)	2. OPERATING UNIT	3. DISTRICT CODE	4. OPERATING AGENCY	5. DATE	6. JOB NUMBER	7. SERIAL NUMBER	8. CONTRACT NUMBER
DA, Los Angeles District, Corps of Engineers, P.O. Box 2711, Los Angeles, CA 90053				22 Sep 76			

9. TO: (Installation/Activity/Service) and Zip code)	10. OPERATING UNIT	11. DISTRICT CODE	12. OPERATING AGENCY	13. ACCOUNTING NUMBER	14. ACCOUNTABLE OFFICE NUMBER	15. TYPE OF TRANSACTION	16. PROJECT NUMBER
Department of Agriculture Forest Service Angeles National Forest Pasadena, CA						A ☐ NEW CONSTR. ☐ EXISTING FAC. ☐ CAPITAL IMP. ☒ OTHER (Specify) Transfer* B ☐ BENF/O ☐ PHYSICAL COM. ☐ FINAN. COM. ☐ OTHER (Specify)	

ITEM NO. 17	CATEGORY CODE 18	FACILITY (Category description) 19	NO. OF UNITS 20	TYPE 21	UNIT OF MEAS. 22	TOTAL QUANTITY 23	COST 24	DRAWING NUMBERS 25	REMARKS 26
		NIKE SITE 04 - ADMINISTRATIVE AREA							*AUTHORITY: FPMR, Part 101.47. 302-2(2). The herein transferred improvements are situated on formerly permitted lands. The acceptance of improvements are predicated in lieu of restoration clause of permit.
1	14185	Company Hqs Building, Bldg. 1		P	SF	4,058	$ 107,468.55		
2	72111	BOQ & EM Barracks, Bldg. 2		P	SF	13,060	256,004.90		
3	72210	Mess Hall, Bldg. 3		P	SF	2,550	100,511.00		
4	41150	Liquid Petroleum Tank, Bldg. 4		P	GAL	2,300	2,605.00		
5	72111	EM Barracks, Bldg. 5		P	SF	7,115	118,954.00		
6	12311	Gasoline Station (1) Pump, Bldg. 6		P	GAL	1,000	5,804.00		
7	44240	Paint & Oil Storage Shed, Bldg. 7		S	SF	54	1,420.00		
8	87230	Sentry Box, Bldg. 8		P	SF	39	2,698.00		
9	83130	Hyperchlorinator, Bldg. 10		S	SF	21	662.00		
10	84120	Tank, Water Storage, Bldg. 21		S	GAL	1,000	3,369.00		
11	87220	Pump House #1 (Off Site), Bldg. 20		S	SF	48	13,078.00		
~~12~~	~~84120~~	~~Tank, Water Collection, Bldg. 22~~		~~S~~	~~GAL~~	~~18,000~~	~~4,916.00~~		Destroyed in a storm 1964
13	84220	Pump House #3, Bldg. 23		P	SF	48	10,699.00		

TRANSFER AND ACCEPTANCE OF MILITARY REAL PROPERTY

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DA, Los Angeles District, Corps of Engineers, P.O. Box 2711, Los Angeles, CA 90053				22 Sep 76			

9. TO: (Installation/Activity/Service) and Zip code)	10. OPERATING UNIT	11. DISTRICT CODE	12. OPERATING AGENCY	13. ACCOUNTING NUMBER	14. ACCOUNTABLE OFFICE NUMBER	15. TYPE OF TRANSACTION	16. PROJECT NUMBER
Department of Agriculture Forest Service Angeles National Forest Pasadena, CA						A ☐ NEW CONSTR. ☐ EXISTING FAC. ☐ CAPITAL IMP. ☒ OTHER (Specify) Transfer B ☐ BENF/O ☐ PHYSICAL COM. ☐ FINAN. COM. ☐ OTHER (Specify)	

ITEM NO. 17	CATEGORY CODE 18	FACILITY (Category description) 19	NO. OF UNITS 20	TYPE 21	UNIT OF MEAS. 22	TOTAL QUANTITY 23	COST 24	DRAWING NUMBERS 25	REMARKS 26
		LAUNCHER AREA							
14	14132	Ready Room, Bldg. 200		P	SF	1,239	$ 37,913.00		
15	84120	Water Reservoir, Bldg. 201		P	GAL	100,000	14,353.00		
16	84220	Pump House #2, Bldg. 202		P	SF	242	24,441.00		
17	21230	Missile Assembly & Test Bldg, Bldg. 203		P	SF	1,380	39,770.00		
18	81110	Electric Power Plant, Bldg. 204		P	SF	1,265	82,466.00		
~~19~~	~~42910~~	~~Acid Storage Shed, Bldg. 205~~		~~P~~	~~SF~~	~~42~~	~~2,455.60~~		
20	14121	UGMSS, Type C, South Structure, Bldg. 206		P	SF	3,660	242,277.34		
21	14121	UGMSS, Type C, Middle Structure, Bldg. 207		P	SF	3,660	242,278.33		
22	14121	UGMSS, Type B, North Structure, Bldg. 208		P	SF	3,962	248,598.83		
~~23~~	~~14990~~	~~Acid Packing Station, Bldg. 209~~		~~P~~	~~EA~~	~~1~~	~~6,051.00~~		
24	75011	Athletic Court, Bldg. 210		P	SY	800	6,673.00		
25	87230	Sentry Box, Bldg. 211		P	SF	39	3,369.00		
26	87230	Sentry Control Station, Bldg. 212		S	SF	184	18,296.63		
27	14120	Warheading Bldg, Bldg. 215		P	SF	787	29,749.00		

(#19) Bldgs do not exist

MT. GLEASON NIKE MISSILE SITE (LA-04-L; LA-04-C)
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DA, Los Angeles District, Corps of Engineers, P.O. Box 2711, Los Angeles, CA 90053				22 Sep 76			

9. TO: (Installation/Activity/Service) and Zip code)	10. OPERATING UNIT	11. DISTRICT CODE	12. OPERATING AGENCY	13. ACCOUNTING NUMBER	14. ACCOUNTABLE OFFICE NUMBER	15. TYPE OF TRANSACTION	16. PROJECT NUMBER
Department of Agriculture Forest Service Angeles National Forest Pasadena, CA						A ☐ NEW CONSTR. ☐ EXISTING FAC. ☐ CAPITAL IMP. ☒ OTHER (Specify) Transfer B ☐ BENF/O ☐ PHYSICAL COM. ☐ FINAN. COM. ☐ OTHER (Specify)	

ITEM NO. 17	CATEGORY CODE 18	FACILITY (Category description) 19	NO. OF UNITS 20	TYPE 21	UNIT OF MEAS. 22	TOTAL QUANTITY 23	COST 24	DRAWING NUMBERS 25	REMARKS 26
28	44290	Dog Equipment Storage Shed, Bldg. 216		P	SF	210	$ 630.00		
29	87240	Kennels, Bldg. 217		S	SF	310	32,493.68		
30	81290	Metering Station, Bldg. 218		P	SF		52,517.00		
31	44290	Canine Equipment Storage, Bldg. 219		S	SF	120	7,549.00		
32	73052	Fallout Shelter, Bldg. 220		P	SF	1,925	111,581.50		
		CONTROL AREA & LAUNCHER AREA							
33	84120	Water Storage Tank, Bldg. 301		P	GAL	10,000	6,423.00		
34	84220	Pump House #4, Bldg. 302		P	SF	242	11,959.00		
35	84120	Water Reservoir, Bldg. 311		P	GAL	100,000	15,178.00		
36	14940	TTR Tower, 10', Bldg. 316		P	EA	1	12,439.00		
37	13510	Communication Conduit		P	LF	357	2,217.99		
38	81240	Electrical Distribution System		P	LF	28,910	217,062.08		
39	81260	Transformers, 263 KV		P	KV	263	2,400.00		
40	83210	Sanitary Sewer		P	LF	6,443	60,573.00		
41	84210	Water Line		P	LF	27,210	176,725.80		
42	85110	Roads		P	SY	34,474	120,221.00		
43	85210	Parking		P	SY	2,605	11,463.00		
44	85220	Concrete Walks		P	SY	1,284	38,017.00		

TRANSFER AND ACCEPTANCE OF MILITARY REAL PROPERTY

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1. FROM: (Installation/Activity/Service) and Zip code)	2. OPERATING UNIT	3. DISTRICT CODE	4. OPERATING AGENCY	5. DATE	6. JOB NUMBER	7. SERIAL NUMBER	8. CONTRACT NUMBER
DA, Los Angeles District, Corps of Engineers, P.O. Box 2711, Los Angeles, CA 90053				22 Sep 76			

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Department of Agriculture Forest Service Angeles National Forest Pasadena, CA						A ☐ NEW CONSTR. ☐ EXISTING FAC. ☐ CAPITAL IMP. ☒ OTHER (Specify) Transfer B ☐ BENF/O ☐ PHYSICAL COM. ☐ FINAN. COM. ☐ OTHER (Specify)	

ITEM NO. 17	CATEGORY CODE 18	FACILITY (Category description) 19	NO. OF UNITS 20	TYPE 21	UNIT OF MEAS. 22	TOTAL QUANTITY 23	COST 24	DRAWING NUMBERS 25	REMARKS 26
45	85290	Paving		P	SY	17,145	$ 260,916.00		
46	85290	Concrete Equipment Pads		P	SY	494.9	9,490.00		
47	87110	Storm Sewer		P	LF	124	3,982.00		
48	87120	Drainage Ditch		P	LF	690	6,038.75		
49	87150	Retaining Wall		P	LF	201	4,986.00		
50	87150	Retaining Wall		P	LF	231	13,647.00		
51	87150	Retaining Wall		S	LF	680	24,537.00		
52	87190	Drain Pipe		P	LF	452	5,859.00		
53	87210	Security Fence		P	LF	6,958	41,366.68		
54	87290	Guard Rails		P	LF	3,300	6,796.00		
55	87250	Entrance Gates		S	LF	48	480.00		
56	88040	Instrusion Alarm System		S	BX		19,914.00		
57	83120	Septic Tank and Drain Field			TG	.76	69,896.00		

27. STATEMENT OF COMPLETION: The facilities listed hereon are in accordance with maps, drawings, and specifications and change orders approved by the authorized representative of the using agency except for the deficiencies listed on the reverse side.

TRANSFERRED BY (Signature) LOUIS E. STRACKE Louis E. Stracke — DATE 22 Sep 76

TITLE (Area Engr./Base Engr./DPWO) Accountable Property Officer, A62222 Los Angeles Dist, Corps of Engineers

28. ACCEPTED BY (Signature) — DATE 10/21/76

TITLE (Post Engr./Base Civ. Engr./Navy Rep.) Administrative Officer

29. PROPERTY VOUCHER NUM

DD FORM 1 NOV 61 1354

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